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Oceanographic and Meteorological Observations from the Hibernia Region of Newfoundland Grand Banks

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Canadian Data Report Of Hydrography and Ocean Sciences

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Rapport statistique canadien sur l'hydrographie et les sciences océaniques

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by

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ABSTRACT

Petrie, B. and D. Warnell. 1988. Oceanographic and meteorological observations from the Hibernia region of the Newfoundland Grand Banks. Can. Data Rep. Hydrogr. Ocean Sci. No. 69: iv + 270 pp.

Maps of mean currents for the entire Grand Banks area for three depth intervals are presented. Current, temperature and salinity time series for three depth intervals and for the total water depth less than and exceeding 100 m have been constructed for the Hibernia region by joining oil company data for the period 1980-1984. Plots, histograms and statistics of these data are presented. Satellite tracked drifting buoy observations, 1976-85, have been used to produce maps of mean, maximum and variable currents for the Grand Banks region. Sea level and adjusted sea level data from St. John's, hydrographic observations from Sta. 27 and wind speed and direction data from St. John's are shown and some statistics presented for the period 1980-1986.

RÉSUMÉ

Petrie, B. and D. Warnell. 1988. Oceanographic and meteorological observations from the Hibernia region of the Newfoundland Grand Banks. Can. Data Rep. Hydrogr. Ocean Sci. No. 69: iv + 270 pp.

Des cartes des courants moyens dans toute la région des Grands Bancs sont présentées pour trois intervalles de profondeurs. Des successions chronologiques de courants, de températures et de salinités pour trois intervalles de profondeurs et pour les profondeurs totales inférieures à 100 m et supérieures à 100 m ont été assemblées pour la région d'Hibernia en réunissant les données de sociétés pétrolières pour la période de 1980 à 1984. Des graphiques, des histogrammes et des statistiques illustrant ces données sont présentés. Des observations de bouées dérivantes poursuivies par satellite de 1976 à 1985 ont été utilisées pour dresser des cartes des courants moyens, maximums et variables pour la région des Grands Bancs. Des données sur le niveau de la mer et des données corrigées pour cette variable issues d'observations hydrographiques à la station 27 de Saint-Jean ainsi que des données sur la vitesse et la direction du vent à Saint-Jean sont présentées avec certaines statistiques pour la période de 1980 à 1986.

TABLE OF CONTENTS

Abstract/Résumé iii

Introduction 1

Acknowledgements 3

References 3

Section 1. Eulerian Currents 4

Section 2. Lagrangian Currents 189

Section 3. St. John's Sea Level 226

Section 4. Station 27 Temperature and Salinity, 1980-1986 241

Section 5. St. John's Wind Data, 1980-1986 250

1. INTRODUCTION

Current meter time series primarily from Hibernia (approximately 46°45'N, 48°45'W), satellite-tracked drifter trajectories for the Grand Banks, sea level data from St. John's, hydrographic observations at Sta. 27 (approximately 47°33'N, 52°35'W) and wind observations from St. John's generally covering the period 1980-86 have been assembled in this report describing some of the oceanographic aspects of the Grand Banks of Newfoundland. It will be clear that more analysis of the existing data could have been done but the focus here will be primarily on the Hibernia region. More detailed analysis will be carried out for data from this area. The report will be presented in five parts which may be generally described as Eulerian currents, Lagrangian currents, sea level, hydrography and winds.

1.1 Eulerian Currents

Current maps and statistics are presented for three depth ranges: surface (0-35 m), mid-depth (35-50 m) and bottom (>50 m). The maps represent about 350 current meter records with an average length of 50 d and a standard deviation of 36 d. Mean current maps which cover the entire Grand Banks region are presented first. In areas where the density of observations is high, maps with an expanded scale are shown. The extrema and statistics of all data in the current meter inventory have been compiled by Gregory (1988).

Current meter records from the oil company moorings in the Hibernia region have been divided into two groups. One includes all observations from sites where the total water depth was less than 100 m, the second from sites where the depth was greater than 100 m. The former, called Hibernia, and the latter time series, called slope, have been again divided into the three depth ranges indicated above. These records have been joined to form a new time series covering five years (1980-1984) but, of course, there are numerous data gaps. The joined time series have also been filtered (half power point at 31 h) to eliminate diurnal and

semidiurnal tides and inertial period motions. Time series plots, progressive vector diagrams, scatter plots of U (eastward current) and V (northward current), scatter plots of temperature, T, and salinity, S, statistics of entire records, monthly statistics and histograms of rate, T and S are presented.

In some cases it is evident that while an instrument was in the water not all data channels were recording. For example, there are cases when direction was recorded but rate was not. In addition, there are some abrupt changes in salinity when instruments were changed. These points should be kept in mind.

1.2 Lagrangian Currents

In this section maps of mean surface currents, eddy kinetic energy, maximum currents, the Labrador Current and a table and plot of new drifting buoy tracks are presented. These results represent an update of two earlier reports (Petrie and Isenor 1984; Isenor and Petrie, 1985). The buoys were drogued for the upper 10-25 m depth. The data were interpolated to daily mean positions at 1200 UT which are indicated by a square in the plots. Currents were calculated by taking differences between successive positions.

1.3 Sea Level

Time series, histograms and statistics of St. John's sea level and adjusted sea level, for the period 1980-1986, are presented.

1.4 Station 27 Hydrography

Contour plots of temperature and salinity are shown for Sta. 27 observations, 1980-1986, to give an idea of the varying hydrographic conditions over the Grand Banks.

1.5 St. John's Wind Observations

Time series of wind speed and direction observed at St. John's for the period 1980-1986 are presented to give an idea of the varying meteorological conditions in the Grand Banks area.

ACKNOWLEDGEMENTS

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PETRIE, B. and ISENOR, A. (1984) An analysis of satellite tracked-drifter observations collected in the Grand Banks region. Can. Tech. Rep. Hydrogr. Ocean Sci. 39, Dartmouth, 64 pp.

Section 1

Eulerian Currents

Index of Figures

		Page
Figure 1.	Mean currents for the surface layer of the Grand Banks.	13
Figure 2.	Mean currents for the Hibernia region, surface layer.	14
Figure 3.	Mean currents for the Avalon Channel, surface layer.	15
Figure 4.	Mean currents for the Notre Dame Channel, surface layer.	16
Figure 5.	Mean currents for the Strait of Belle Isle, surface layer.	17
Figure 6.	Mean currents for the mid-depth layer of the Grand Banks.	18
Figure 7.	Mean currents for the Hibernia region, middle layer.	19
Figure 8.	Mean currents for the Avalon Channel, middle layer.	20
Figure 9.	Mean currents for the Strait of Belle Isle, middle layer.	21
Figure 10.	Mean currents for the bottom layer of the Grand Banks.	22
Figure 11.	Mean currents for the Hibernia region, bottom layer.	23
Figure 12.	Mean currents for the Avalon Channel, bottom layer.	24
Figure 13.	Mean currents for the Strait of Belle Isle, bottom layer.	25
Figure 14(a).	Near surface (0-35 m) currents at 1 hour sampling for the Hibernia region for 1980. This time series was constructed by joining records from locations where the total water depth was less than 100 m.	26
Figure 14(a').	Filtered time series of data shown in Figure 14(a).	27
Figure 14(b).	Near surface currents at 1 hour sampling for the Hibernia region for 1981.	28
Figure 14(b').	Filtered time series of data shown in Figure 14(b).	29
Figure 14(c).	Near surface currents at 1 hour sampling for the Hibernia region for 1982.	30
Figure 14(c').	Filtered time series of data shown in Figure 14(c).	31

Index of Figures

		Page
Figure 14(d).	Near surface currents at 1 hour sampling for the Hibernia region for 1983.	32
Figure 14(d').	Filtered time series of data shown in Figure 14(d).	33
Figure 14(e).	Near surface currents at 1 hour sampling for the Hibernia region for 1984.	34
Figure 14(e').	Filtered time series of data shown in Figure 14(e).	35
Figure 15(a).	Mid-depth (35-50) currents for the Hibernia region for 1980 formed in the same manner as the surface currents.	36
Figure 15(a').	Filtered time series of data shown in Figure 15(a).	37
Figure 15(b).	Mid-depth currents for the Hibernia region for 1981.	38
Figure 15(b').	Filtered time series of data shown in Figure 15(b).	39
Figure 15(c).	Mid-depth currents for the Hibernia region for 1982.	40
Figure 15(c').	Filtered time series of data shown in Figure 15(c).	41
Figure 15(d).	Mid-depth currents for the Hibernia region for 1983.	42
Figure 15(d').	Filtered time series of data shown in Figure 15(d).	43
Figure 15(e).	Mid-depth currents for the Hibernia region for 1984.	44
Figure 15(e').	Filtered time series of data shown in Figure 15(e).	45
Figure 16(a).	Near bottom (>50m) currents for the Hibernia region for 1980 formed in the same manner as the surface currents.	46
Figure 16(a').	Filtered time series of data shown in Figure 16(a).	47
Figure 16(b).	Near bottom currents for the Hibernia region for 1981.	48
Figure 16(b').	Filtered time series of data shown in Figure 16(b).	49

Index of Figures

		Page
Figure 16(c).	Near bottom currents for the Hibernia region for 1982.	50
Figure 16(c').	Filtered time series of data shown in Figure 16(c).	[illegible]
Figure 16(d).	Near bottom currents for the Hibernia region for 1983.	52
Figure 16(d').	Filtered time series of data shown in Figure 16(d).	53
Figure 16(e).	Near bottom currents for the Hibernia region for 1984.	54
Figure 16(e').	Filtered time series of data shown in Figure 16(e).	55
Figure 17(a).	Near surface (0-35 m) currents at 1 hour sampling for the slope area of the Grand Banks near Hibernia for 1980. This time series was constructed by joining records from locations where the total water depth exceeded 100 m.	56
Figure 17(a').	Filtered time series of data shown in Figure 17(a).	57
Figure 17(b).	No near surface currents available for the slope area for 1981.	58
Figure 17(c).	Near surface currents for the slope area for 1982.	59
Figure 17(c').	Filtered time series of data shown in Figure 17(c).	60
Figure 17(d).	Near surface currents for the slope area for 1983.	61
Figure 17(d').	Filtered time series of data shown in Figure 17(d).	62
Figure 17(e).	Near surface currents for the slope area for 1984.	63
Figure 17(e').	Filtered time series of data shown in Figure 17(e).	64
Figure 18(a).	Mid-depth currents for the slope region of the Grand Banks near Hibernia for 1980 formed in the same manner as the surface currents.	65
Figure 18(a').	Filtered time series of data shown in Figure 18(a).	66

Index of Figures

		Page
Figure 18(b).	Mid-depth currents for the slope area for 1981.	67
Figure 18(b').	Filtered time series of data shown in Figure 18(b).	68
Figure 18(c).	Mid-depth currents for the slope area for 1982.	69
Figure 18(c').	Filtered time series of data shown in Figure 18(c).	70
Figure 18(d).	Mid-depth currents for the slope area for 1983.	71
Figure 18(d').	Filtered time series of data shown in Figure 18(d).	72
Figure 18(e).	Mid-depth currents for the slope area for 1984.	73
Figure 18(e').	Filtered time series of data shown in Figure 18(e).	74
Figure 19(a).	Near bottom (>50 m) currents for the slope region of the Grand Banks near Hibernia for 1980 formed in the same manner as the surface currents.	75
Figure 19(a').	Filtered time series of currents shown in Figure 19(a).	76
Figure 19(b).	Near bottom currents for the slope area for 1981.	77
Figure 19(b').	Filtered time series of currents shown in Figure 19(b).	78
Figure 19(c).	Near bottom currents for the slope area for 1982.	79
Figure 19(c').	Filtered time series of currents shown in Figure 19(c).	80
Figure 19(d).	Near bottom currents for the slope area for 1983.	81
Figure 19(d').	Filtered time series of currents shown in Figure 19(d).	82
Figure 19(e).	Near bottom currents for the slope area for 1984.	83
Figure 19(e').	Filtered time series of currents shown in Figure 19(e).	84

Index of Figures Page

Figure 20.	Progressive vector diagram of the current data shown in Figure 14. The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.	85
Figure 21.	Progressive vector diagram of the current data shown in Figure 15. The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.	86
Figure 22.	Progressive vector diagram of the current data shown in Figure 16. The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.	87
Figure 23.	Progressive vector diagram of the current data shown in Figure 17. The depth shown is the average depth of the records used to create the plot.Crosses are 1 year apart.	88
Figure 24.	Progressive vector diagram of the current data shown in Figure 18. The depth shown is the average depth of the records used to create the plot.Crosses are 1 year apart.	89
Figure 25.	Progressive vector diagram of the current data shown in Figure 19. The depth shown is the average depth of the records used to create the plot.Crosses are 1 year apart.	90
Figure 26.	Scatter plot of the filtered U-V components for the near surface layer at Hibernia.	91
Figure 27.	Scatter plot of the filtered T-S for the near surface layer at Hibernia.	92
Figure 28.	Scatter plot of the filtered U-V components for the mid-depth layer at Hibernia.	93
Figure 29.	Scatter plot of the filtered T-S for the mid-depth layer at Hibernia.	94
Figure 30.	Scatter plot of the filtered U-V components for the near bottom layer at Hibernia.	95
Figure 31.	Scatter plot of the filtered T-S for the near bottom layer at Hibernia.	96
Figure 32.	Scatter plot of the filtered U-V components for the near surface layer in the slope region near Hibernia.	97
Figure 33.	Scatter plot of the filtered T-S for the near surface layer in the slope region near Hibernia.	98

Index of Figures

		Page
Figure 34.	Scatter plot of the filtered U-V components for the mid-depth layer in the slope region near Hibernia.	99
Figure 35.	Scatter plot of the filtered T-S for the mid-depth layer in the slope region near Hibernia.	100
Figure 36.	Scatter plot of the filtered U-V components for the near bottom layer in the slope region near Hibernia.	101
Figure 37.	Scatter plot of the filtered T-S for the near bottom layer in the slope region near Hibernia.	102

Index of Tables

	Index of Tables	Page
Table 1.	Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the hourly data.	103
Table 2.	Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the filtered data.	106
Table 3.	Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the hourly data.	109
Table 4.	Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.	112
Table 5.	Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.	115
Table 6.	Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.	118
Table 7.	Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.	121
Table 8.	Histograms of salinity for the (a) near surface, (b)mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.	124
Table 9.	Overall statistics of rate, u, v, T and S for all three depth levels at Hibernia based on the hourly data.	127
Table 10.	Monthly statistics of rate, u, v, T and S for the near surface layer at Hibernia based on the hourly data.	128
Table 11.	Monthly statistics of rate, u, v, T and S for the mid-depth layer at Hibernia based on the hourly data.	133
Table 12.	Monthly statistics of the rate, u, v, T and S for the near bottom layer at Hibernia based on the hourly data.	138
Table 13.	Overall statistics of rate, u, v, T and S for all three depth levels for the slope area near Hibernia based on the hourly data.	143
Table 14.	Monthly statistics of rate, u, v, T and S for the near surface layer for the slope area near Hibernia based on the hourly data. Note there were not any data for 1981.	144

Index of Tables

		Page
Table 15.	Monthly statistics of the rate, u, v, T and S for the mid-depth layer for the slope area near Hibernia based on the hourly data.	148
Table 16.	Monthly statistics of the rate, u, v, T and S for the near bottom layer for the slope area near Hibernia based on the hourly data.	153
Table 17.	Overall statistics of rate, u, v, T and S for all three depth levels at Hibernia based on the filtered data.	158
Table 18.	Monthly statistics of rate, u, v, T and S for the near surface layer at Hibernia based on the filtered data.	159
Table 19.	Monthly statistics of rate, u, v, T and S for the mid-depth layer at Hibernia based on the filtered data.	164
Table 20.	Monthly statistics of rate, u, v, T and S for the near bottom layer at Hibernia based on the filtered data.	169
Table 21.	Overall statistics of rate, u, v, T and S for all three depth levels for the slope area near Hibernia based on the filtered data.	174
Table 22.	Monthly statistics of rate, u, v, T and S for the near surface layer for the slope area near Hibernia based on the filtered data. Note there were not any data for 1981.	175
Table 23.	Monthly statistics of the rate, u, v, T and S for the mid-depth layer for the slope area near Hibernia based on the filtered data.	179
Table 24.	Monthly statistics of the rate, u, v, T and S for the near bottom layer for the slope area near Hibernia based on the filtered data.	184

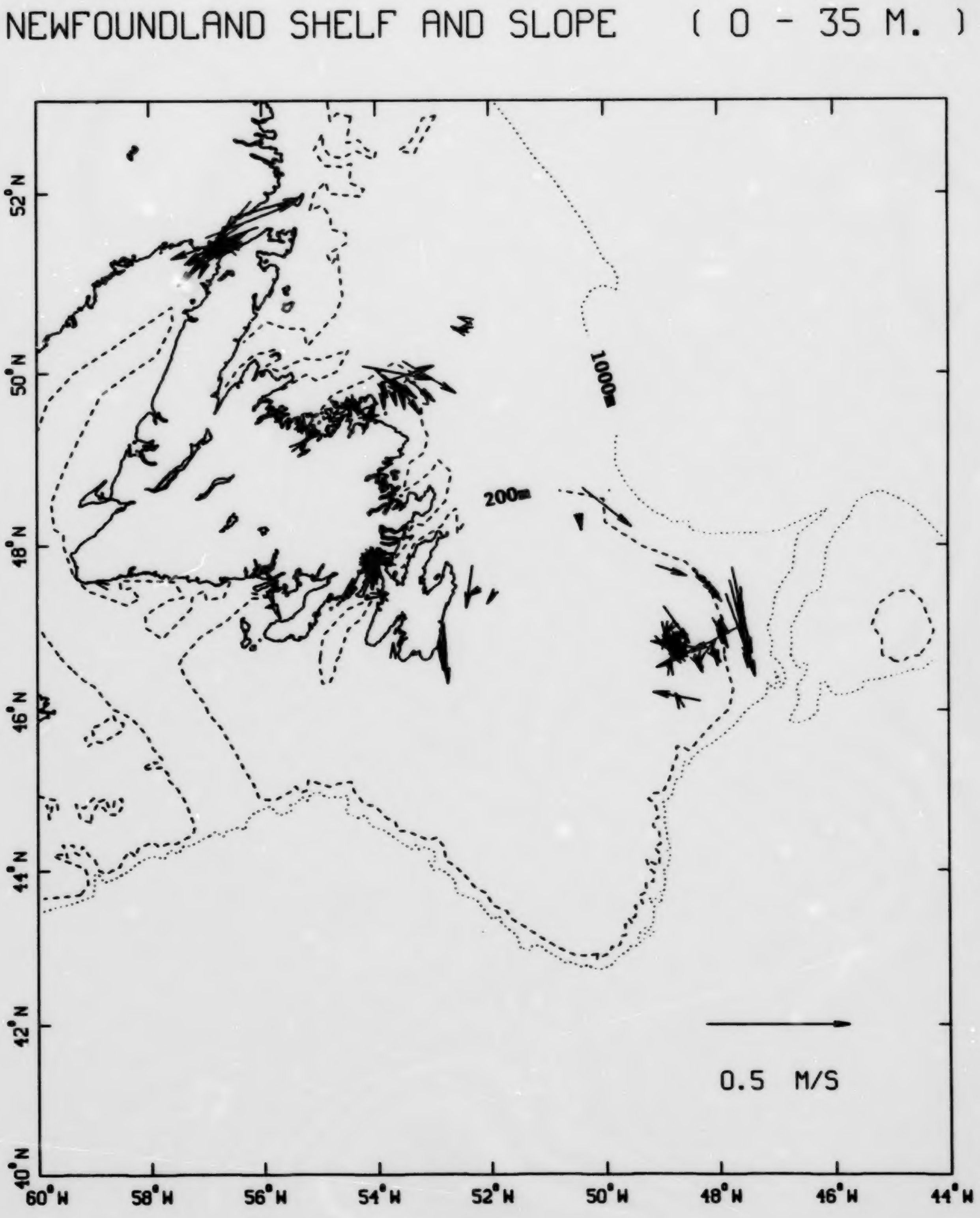


Figure 1. **Mean currents for the surface layer of the Grand Banks.**

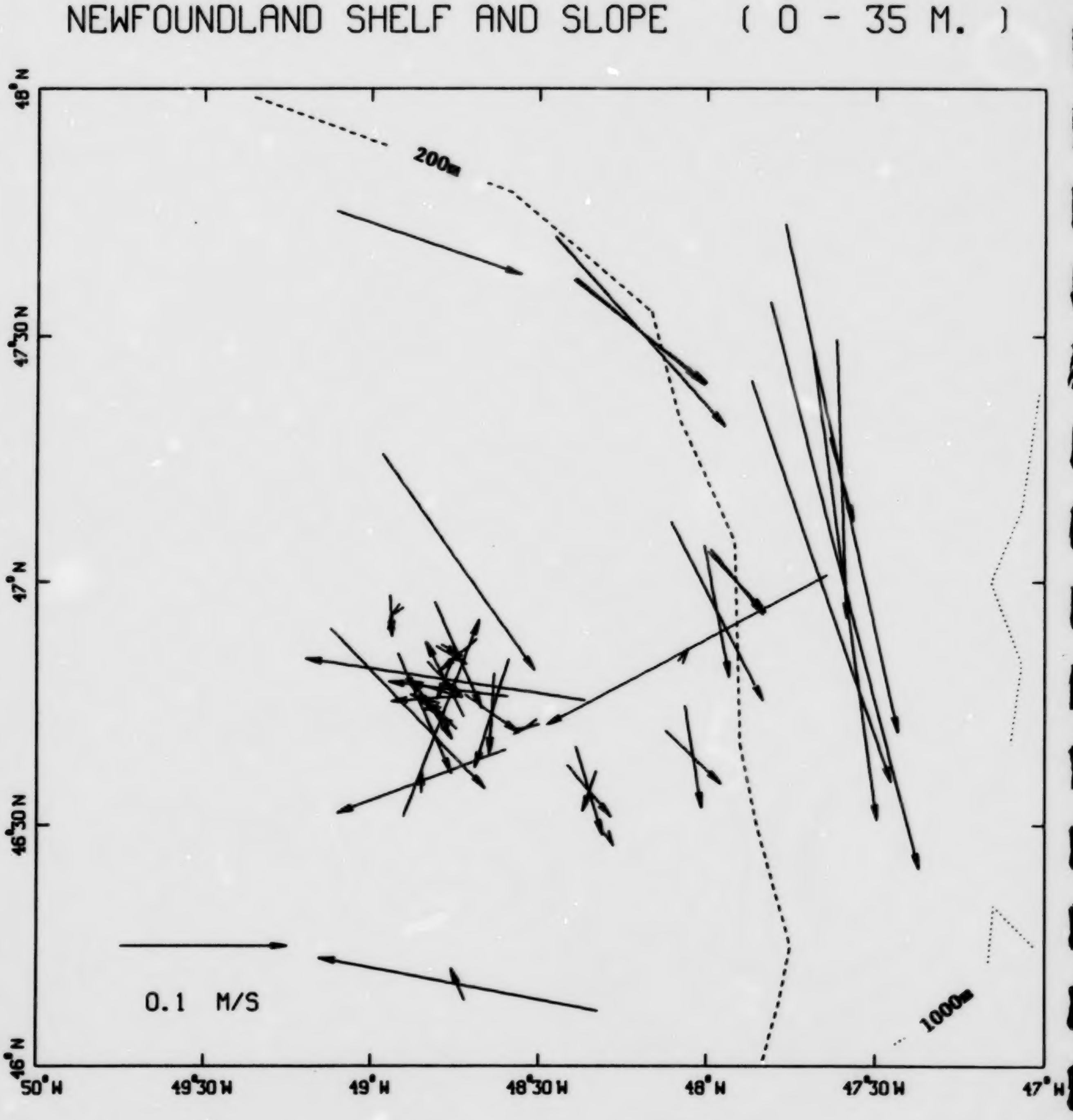


Figure 2. Mean currents for the Hibernia region, surface layer.

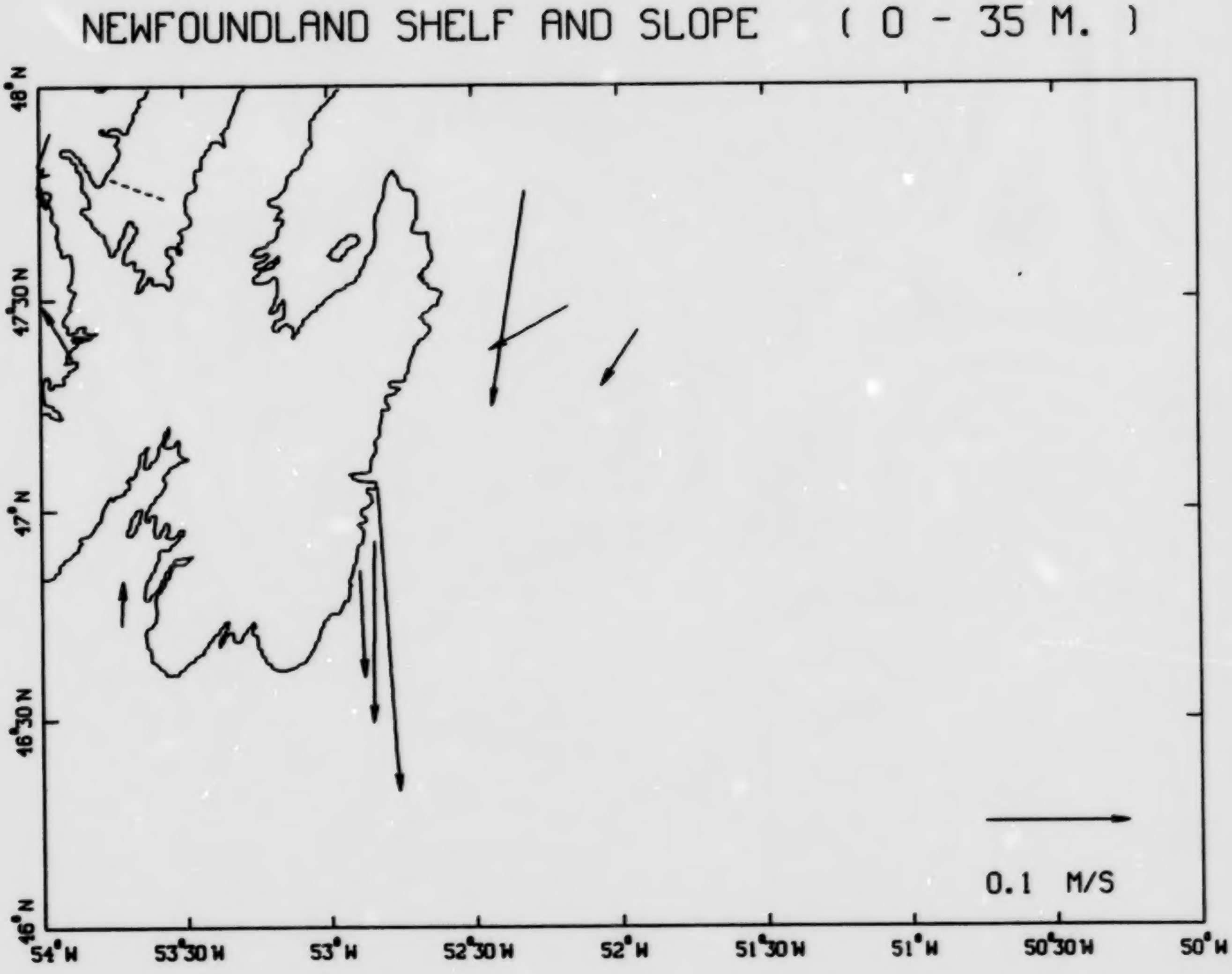


Figure 3. Mean currents for the Avalon Channel, surface layer.

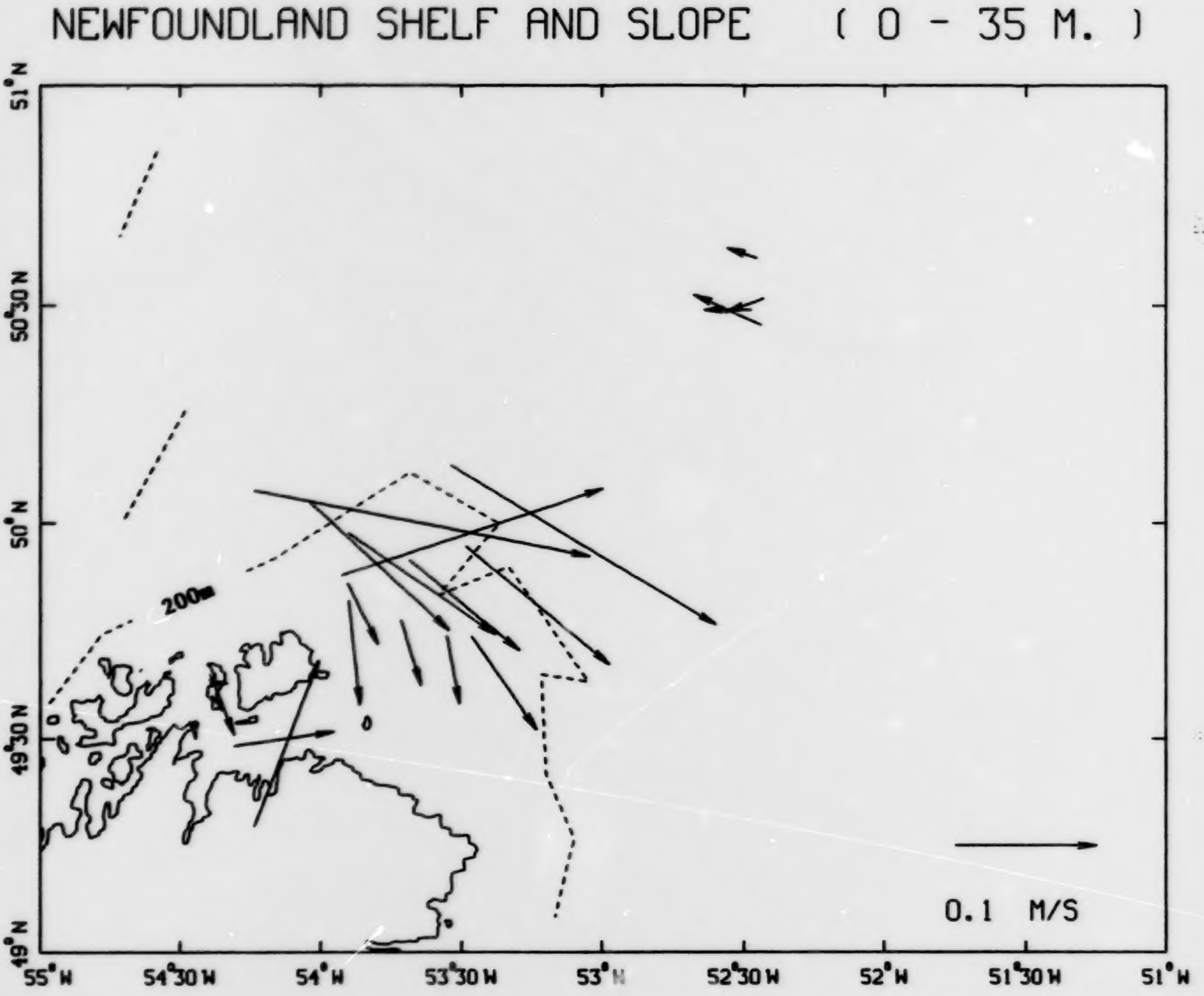


Figure 4. Mean currents for the Notre Dame Channel, surface layer.

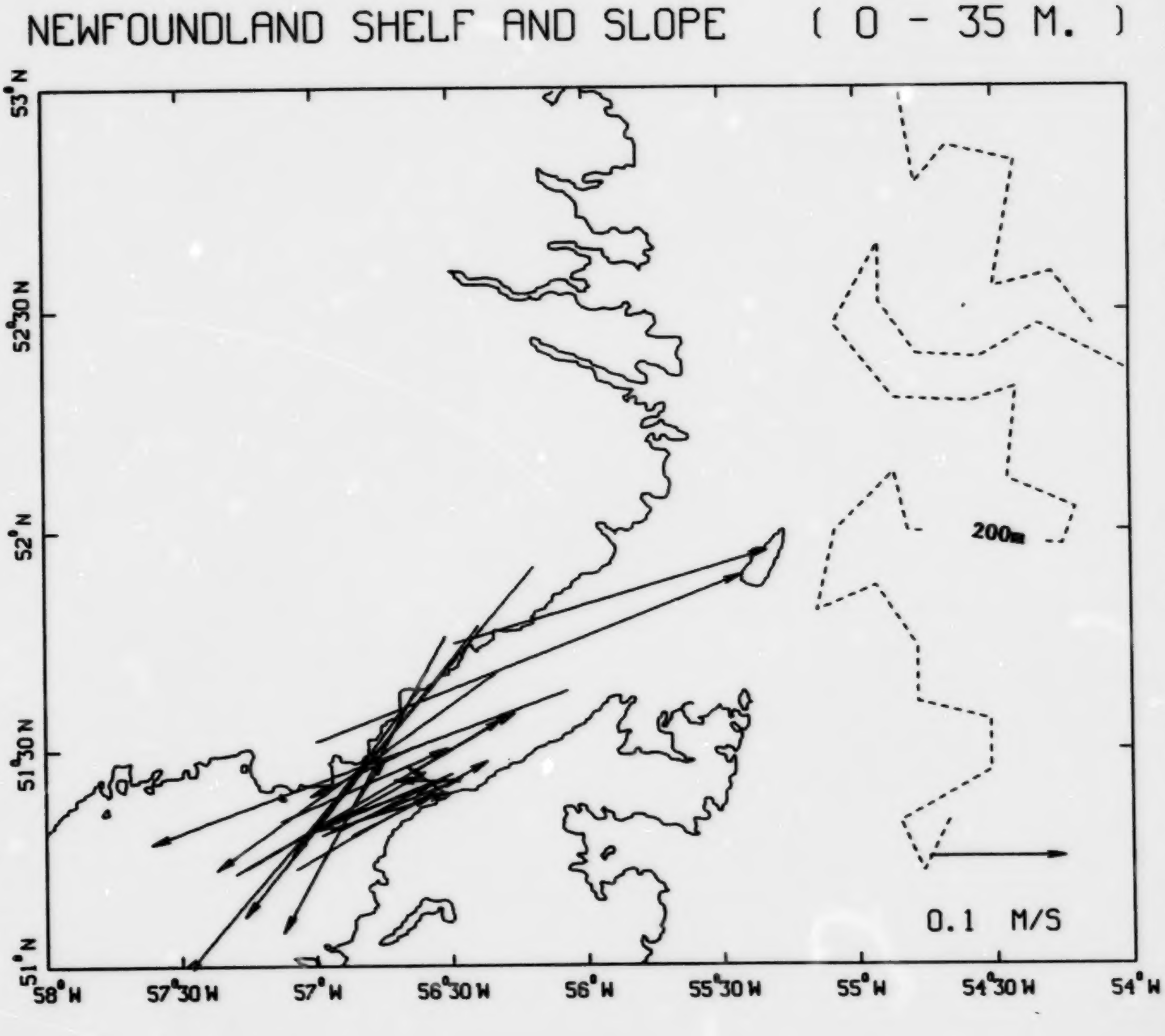


Figure 5. Mean currents for the Strait of Belle Isle, surface layer.

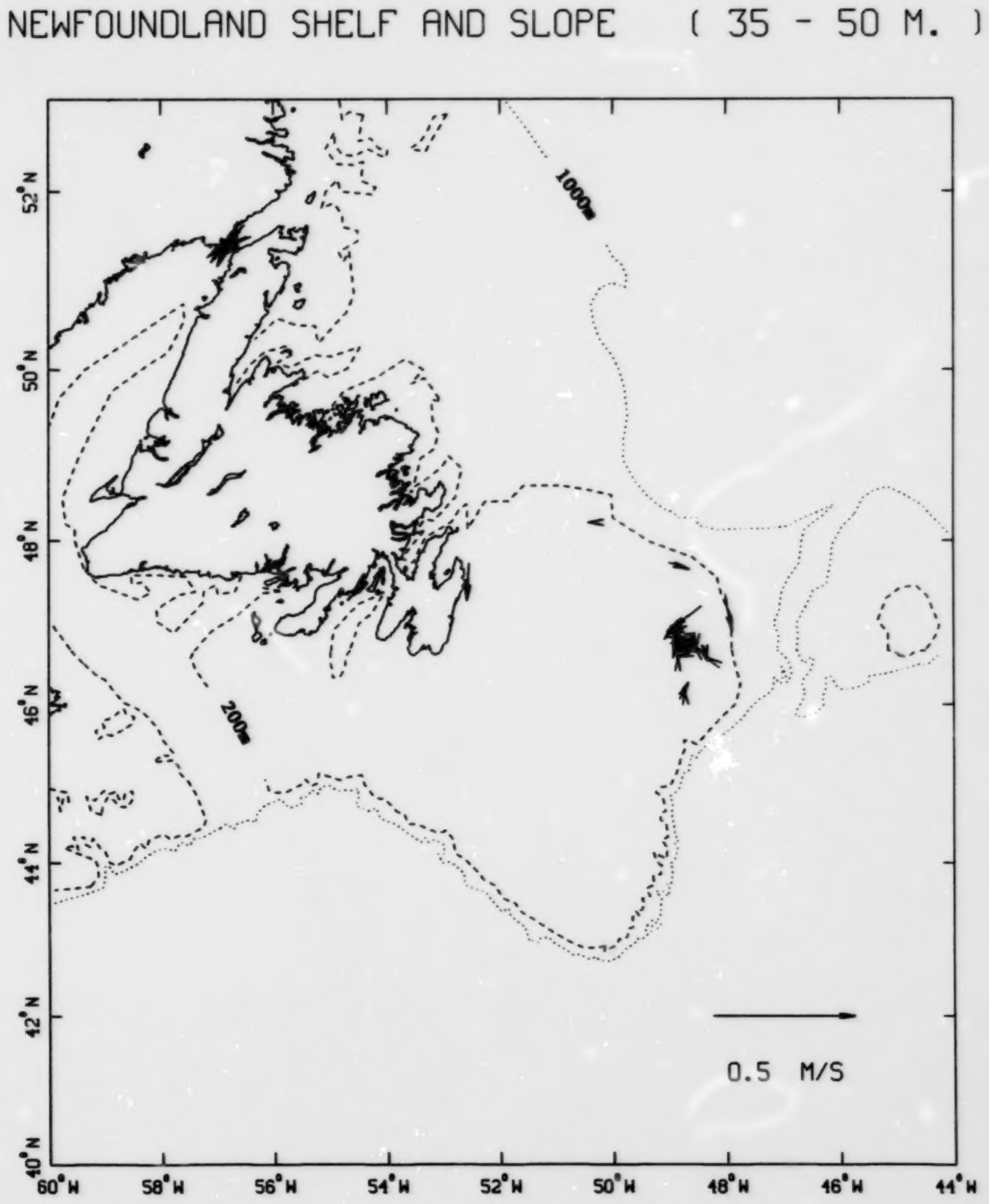


Figure 6. **Mean currents for the mid-depth layer of the Grand Banks.**

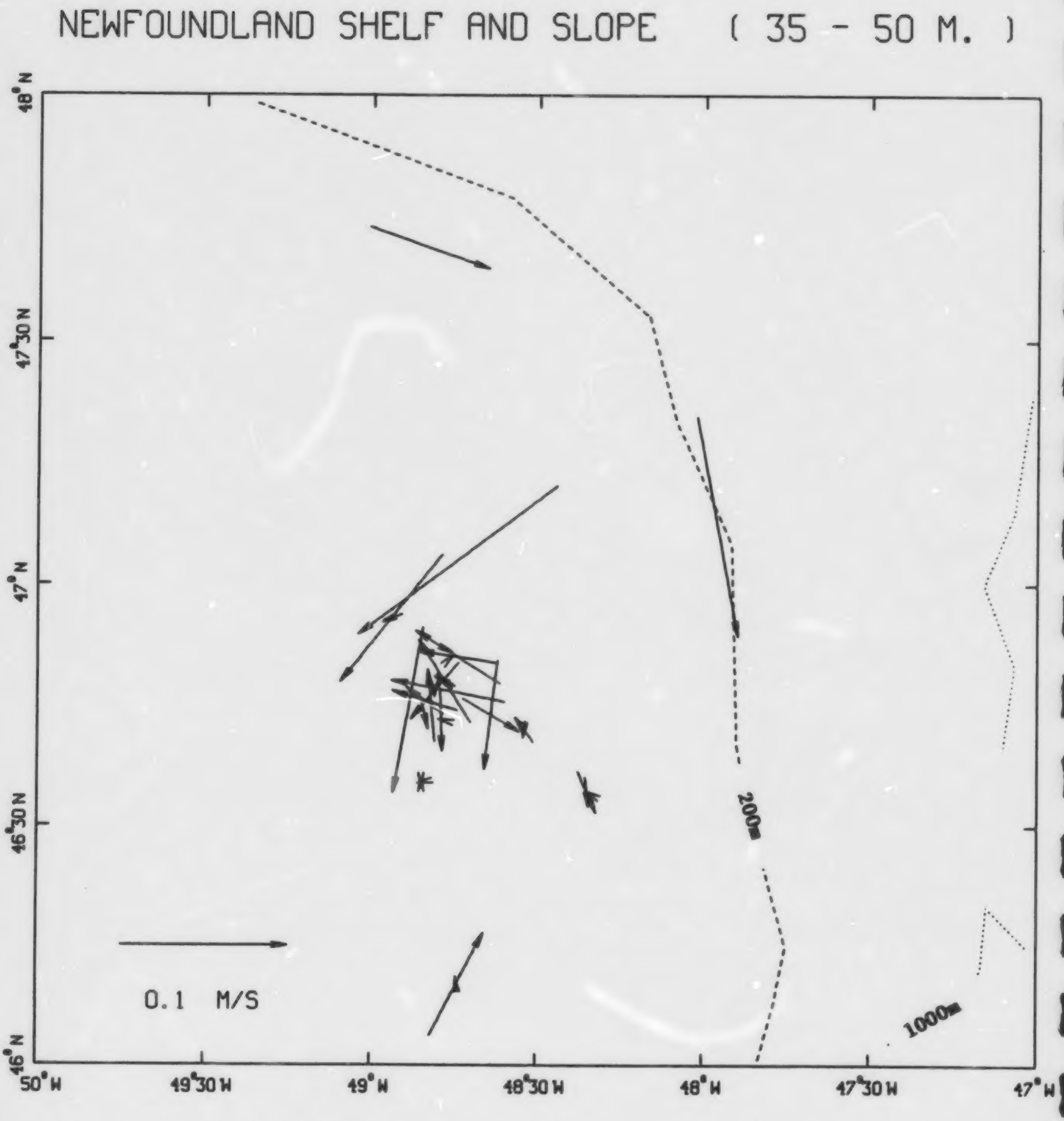


Figure 7. Mean currents for the Hibernia region, middle layer.

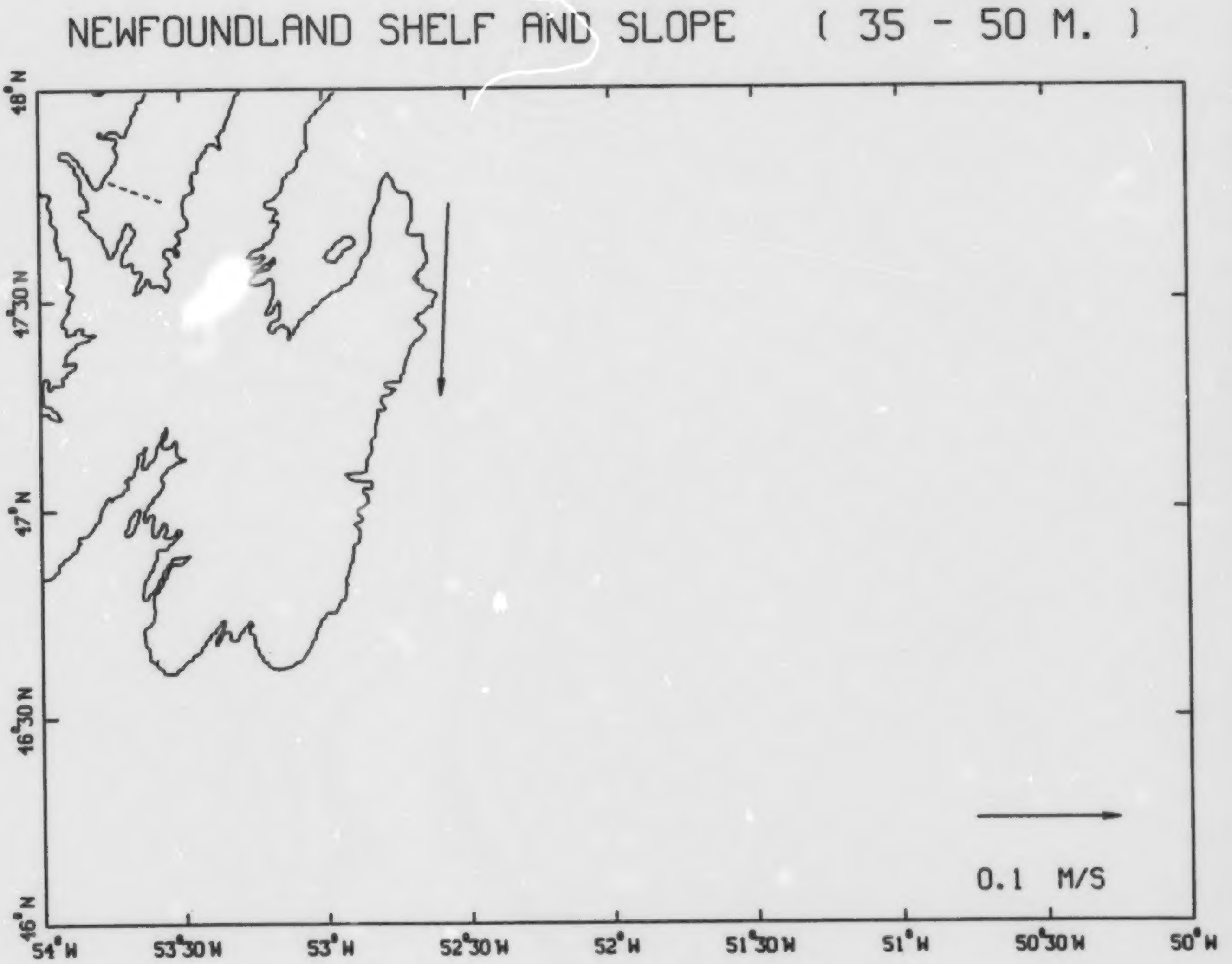


Figure 8. Mean currents for the Avalon Channel, middle layer.

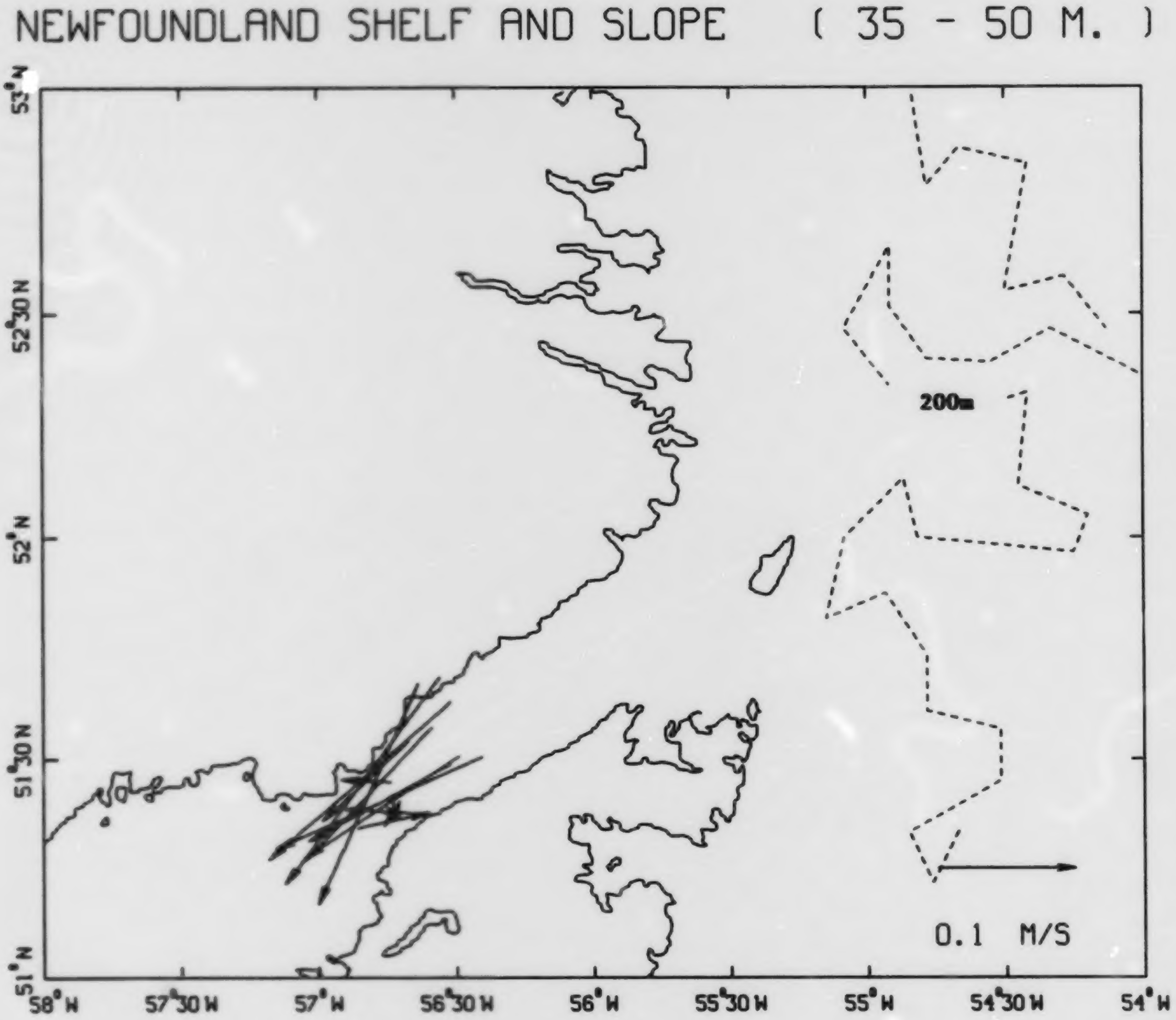


Figure 9. Mean currents for the Strait of Belle Isle, middle layer.

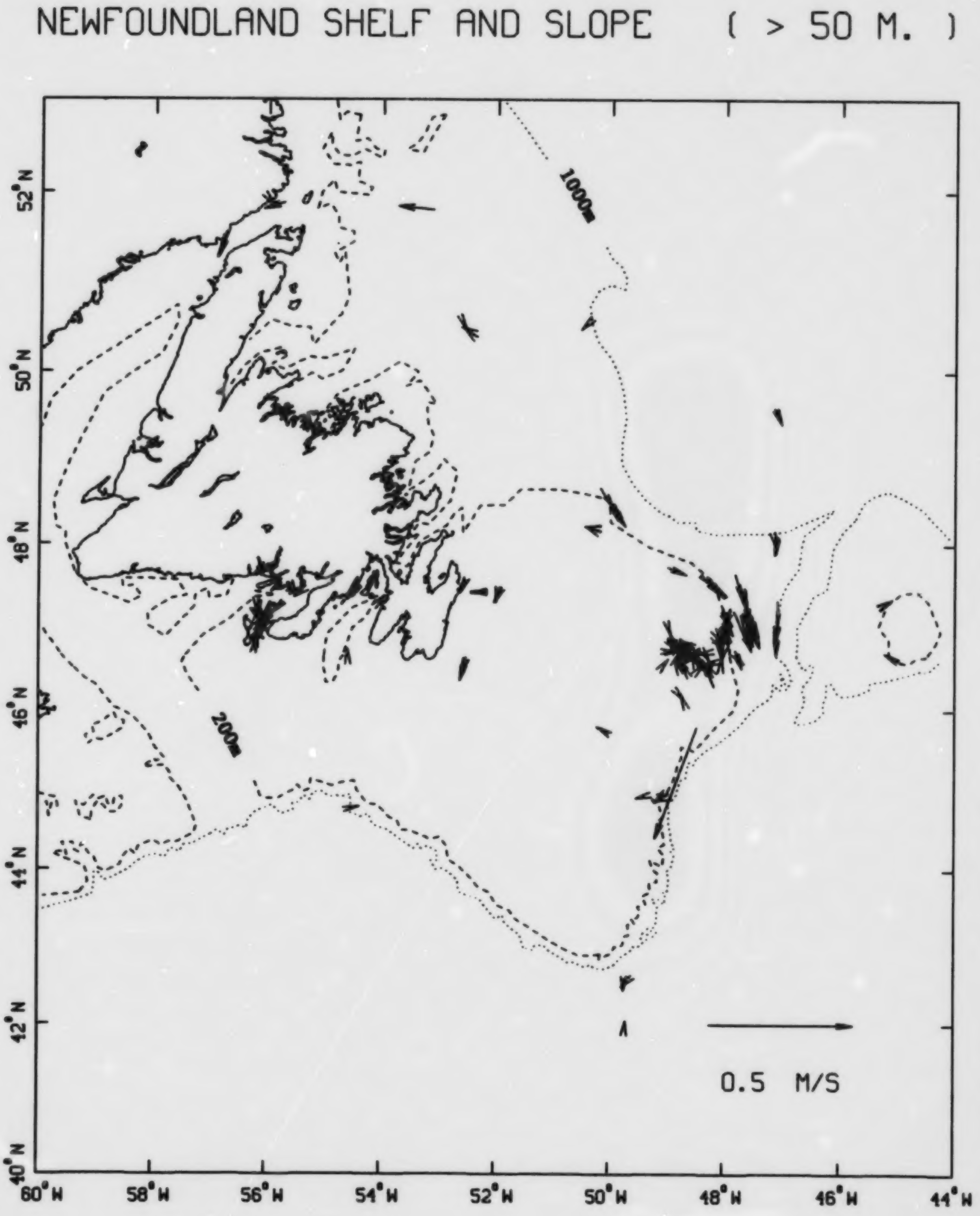
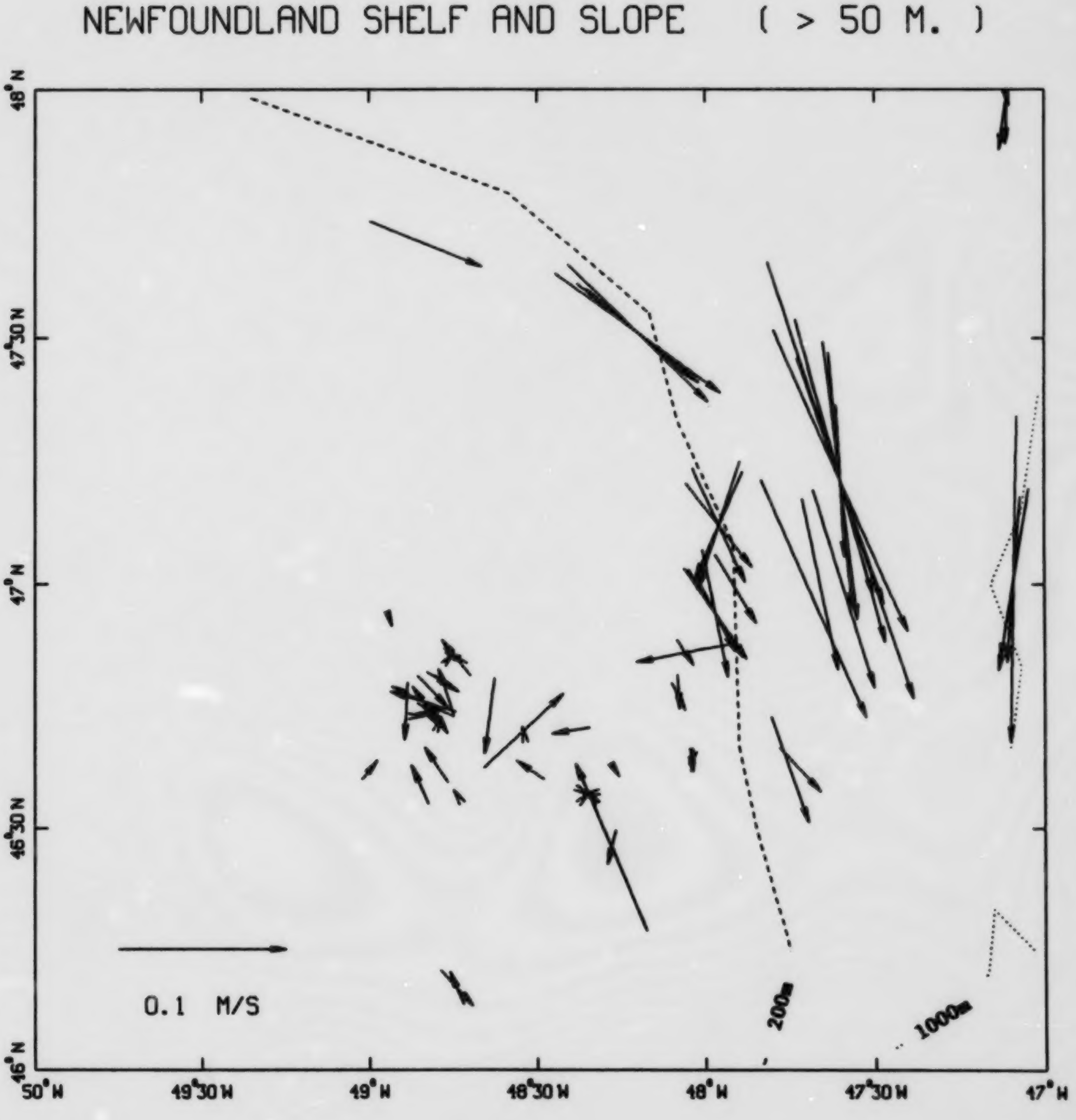


Figure 10. Mean currents for the bottom layer of the Grand Banks.



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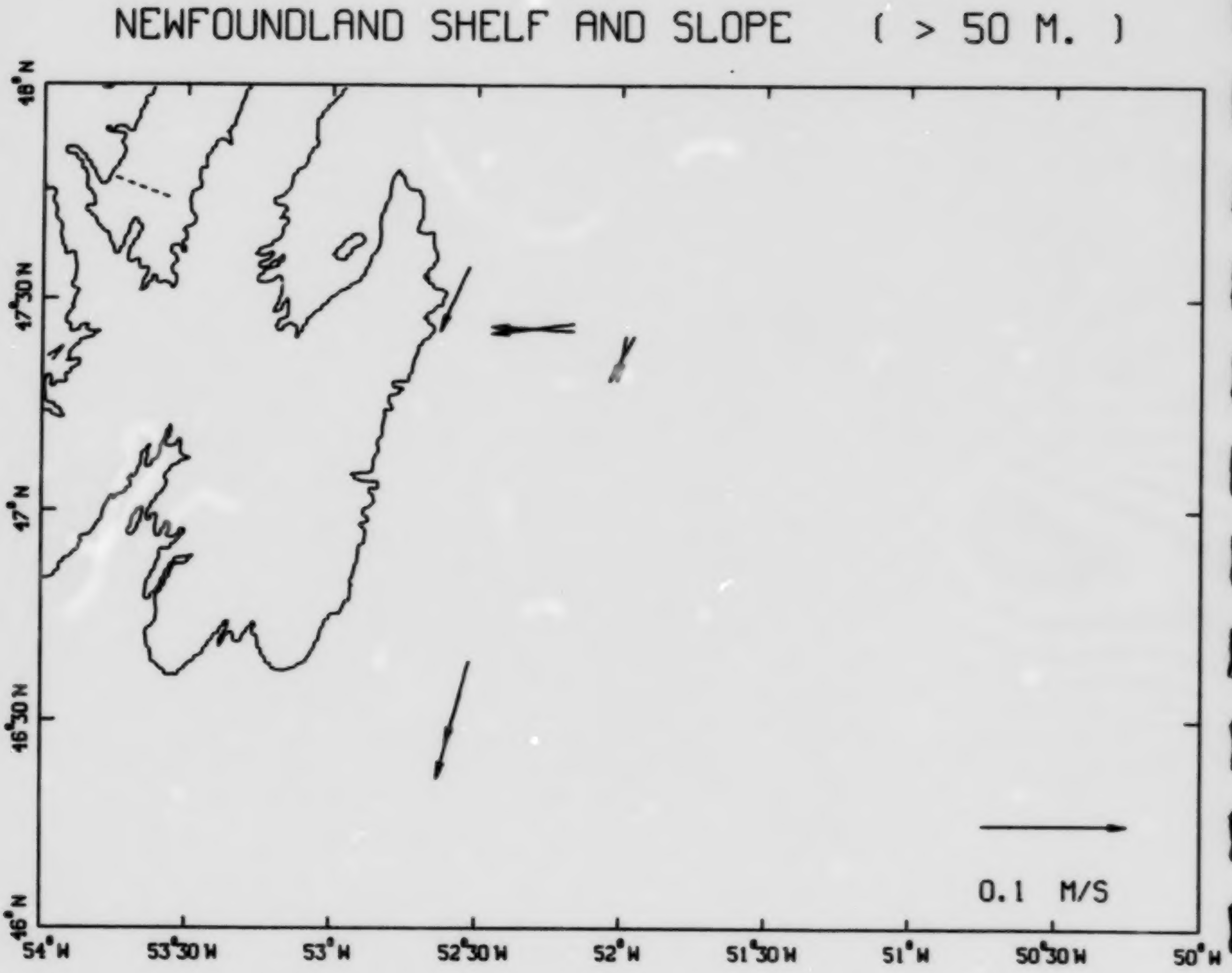


Figure 12. Mean currents for the Avalon Channel, bottom layer.

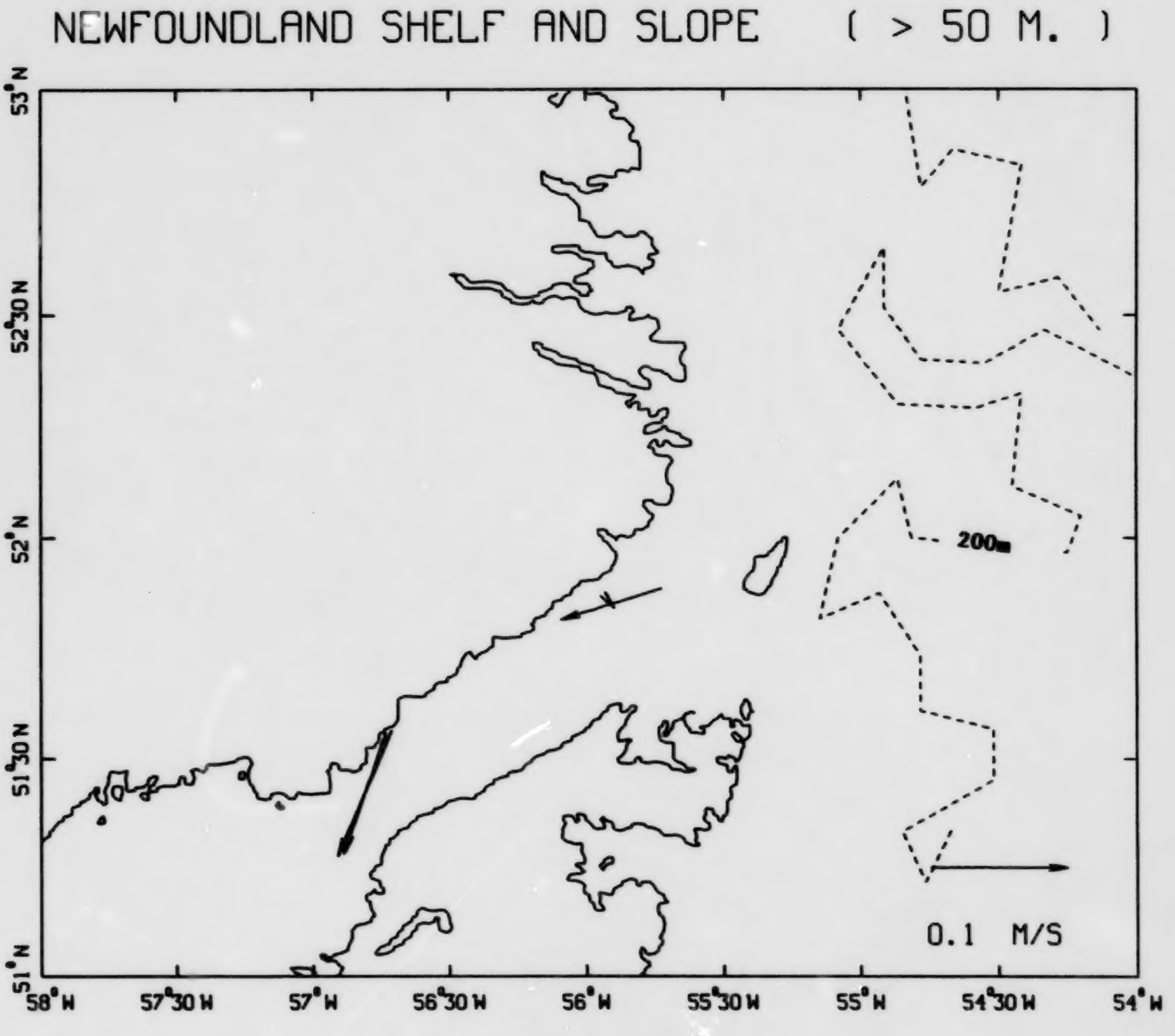
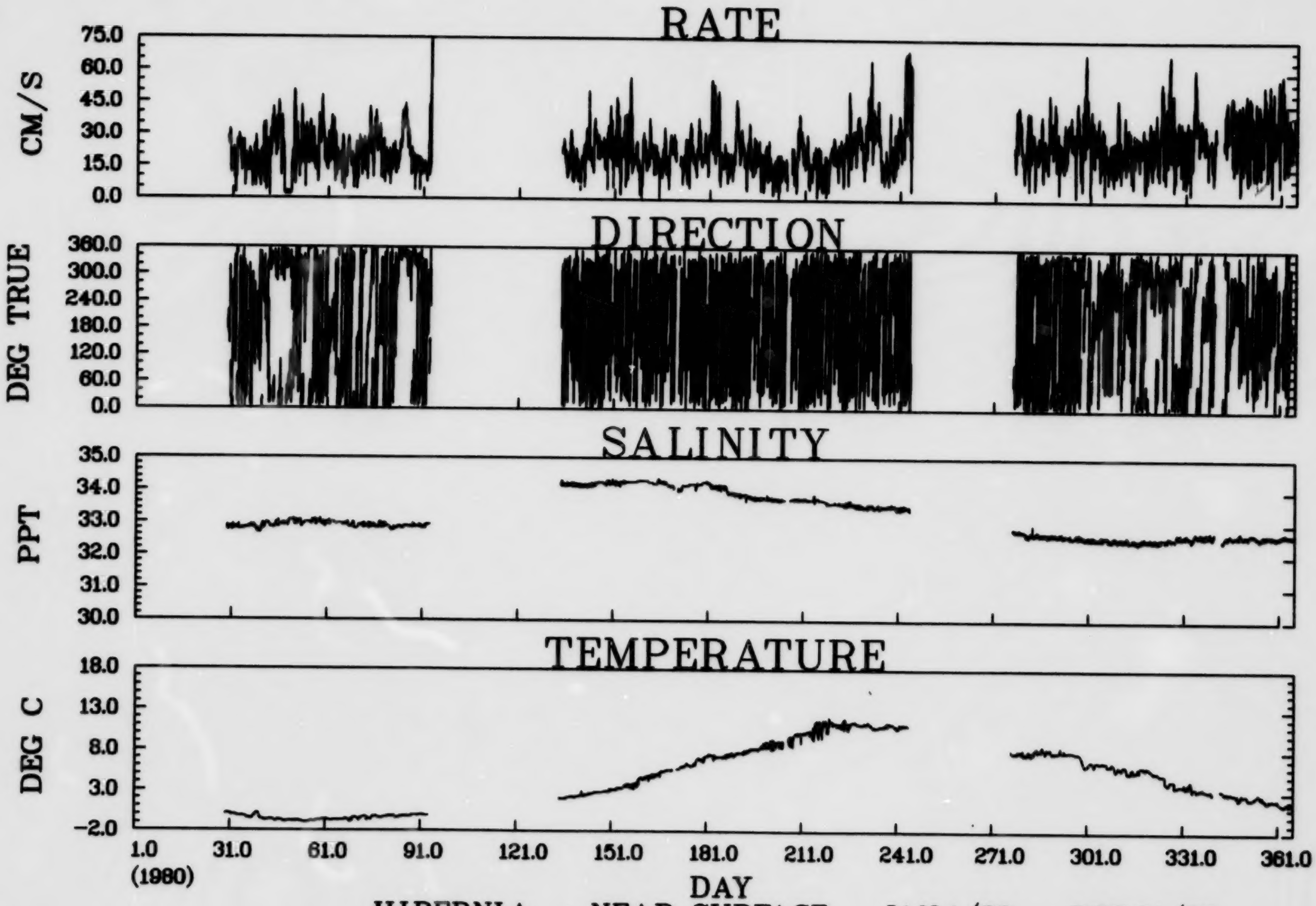


Figure 13. Mean currents for the Strait of Belle Isle, bottom layer.



HIBERNIA : NEAR SURFACE JAN.1/80 – DEC.31/80

Figure 14(a). Near surface (0-35 m) currents at 1 hour sampling for the Hibernia region for 1980. This time series was constructed by joining records from locations where the total water depth was less than 100 m.

less than 100 m.

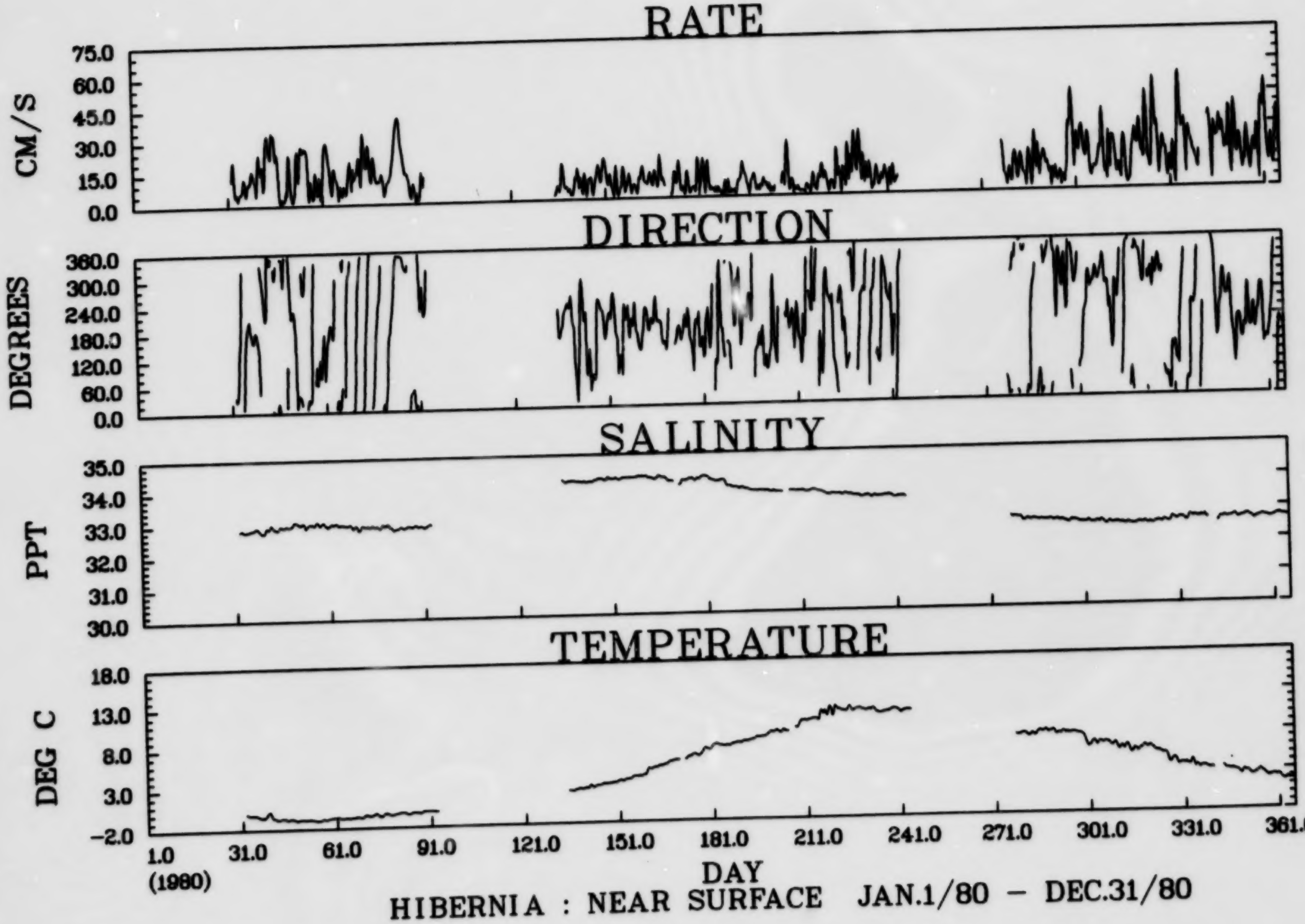


Figure 14(a'). Filtered time series of data shown in Figure 14(a).

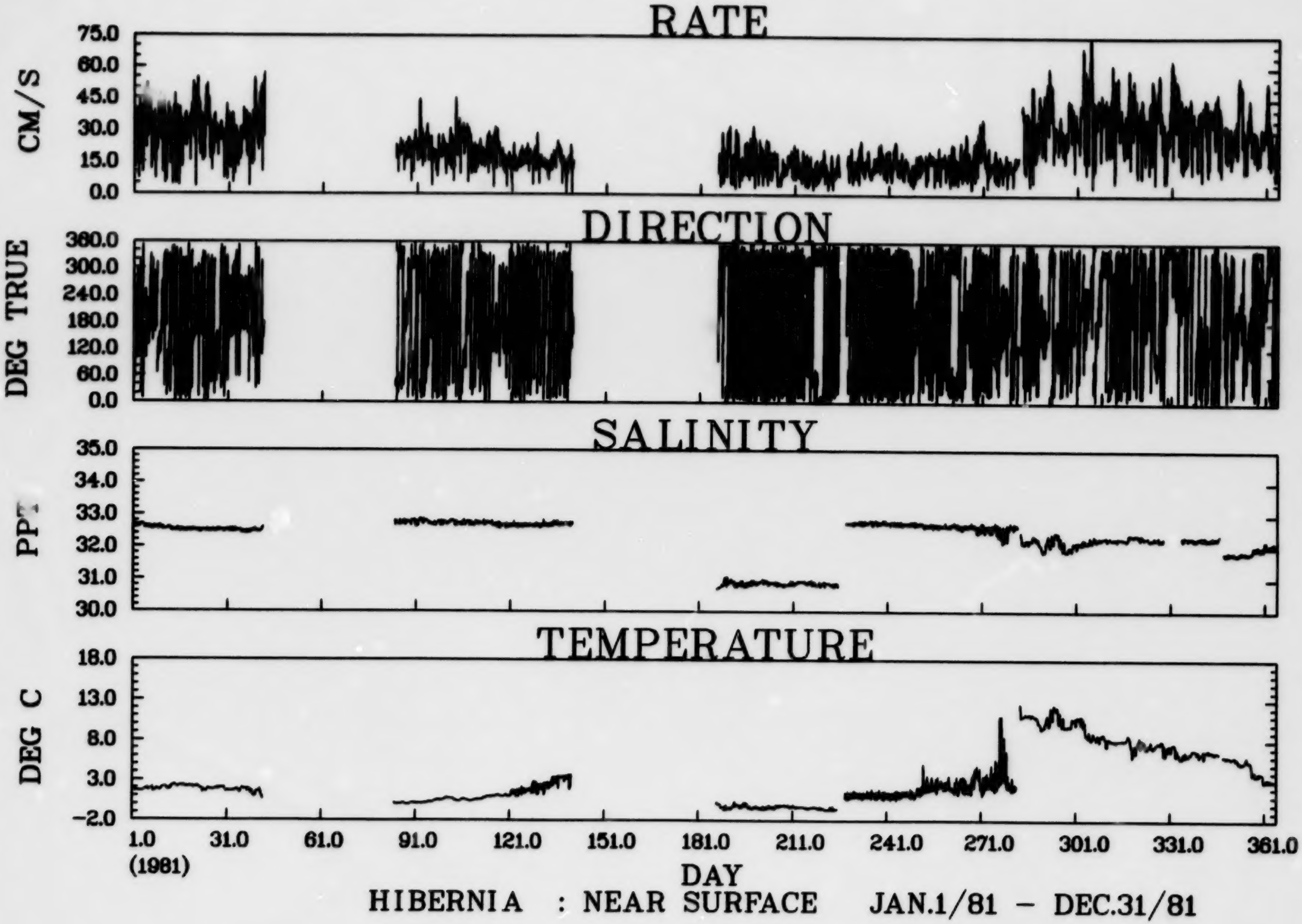


Figure 14(b). Near surface currents at 1 hour sampling for the Hibernia region for 1981.

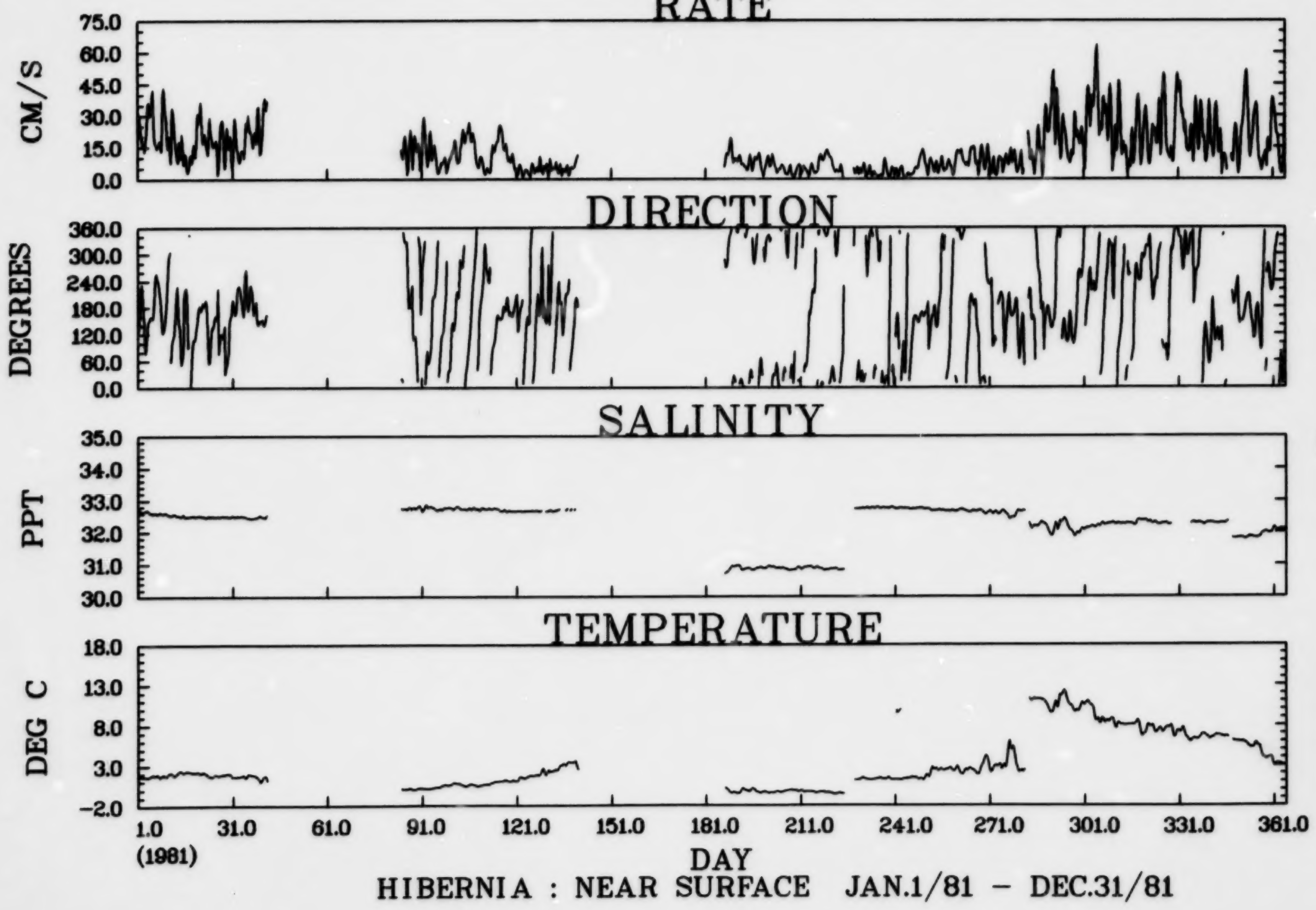


Figure 14(b'). Filtered time series of data shown in Figure 14(b).

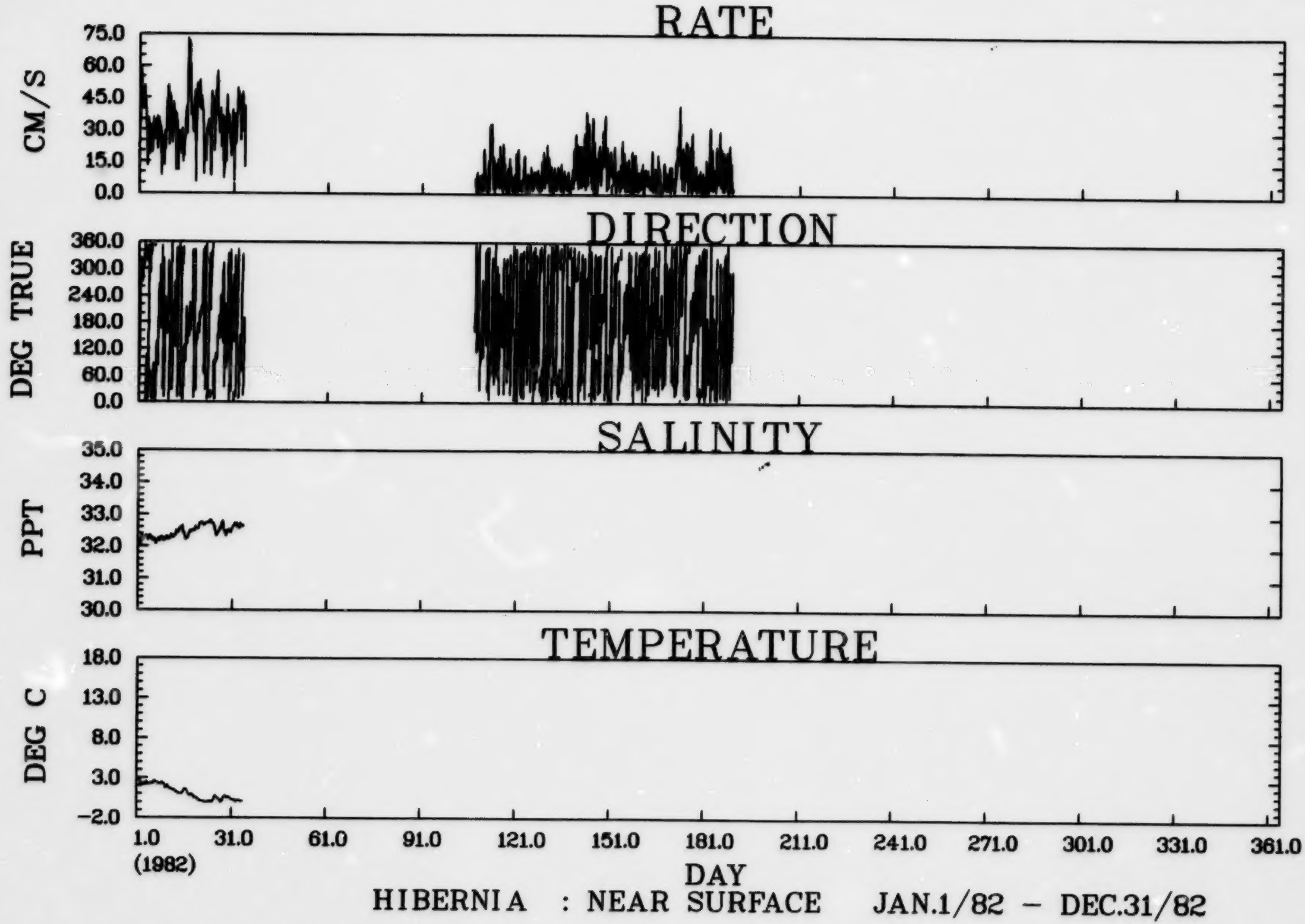


Figure 14(c). Near surface currents at 1 hour sampling for the Hibernia region for 1982.

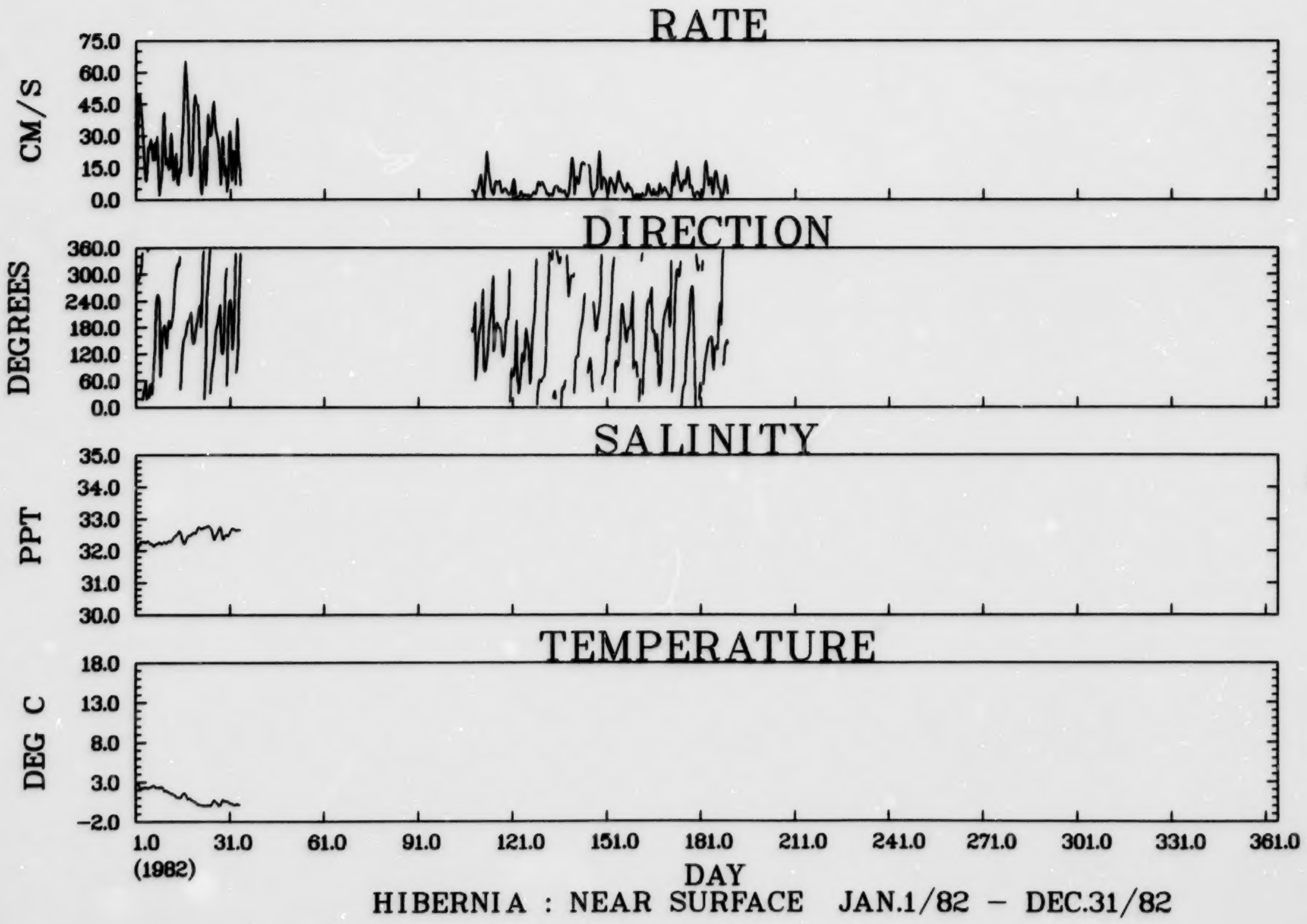


Figure 14(c'). Filtered time series of data shown in Figure 14(c).

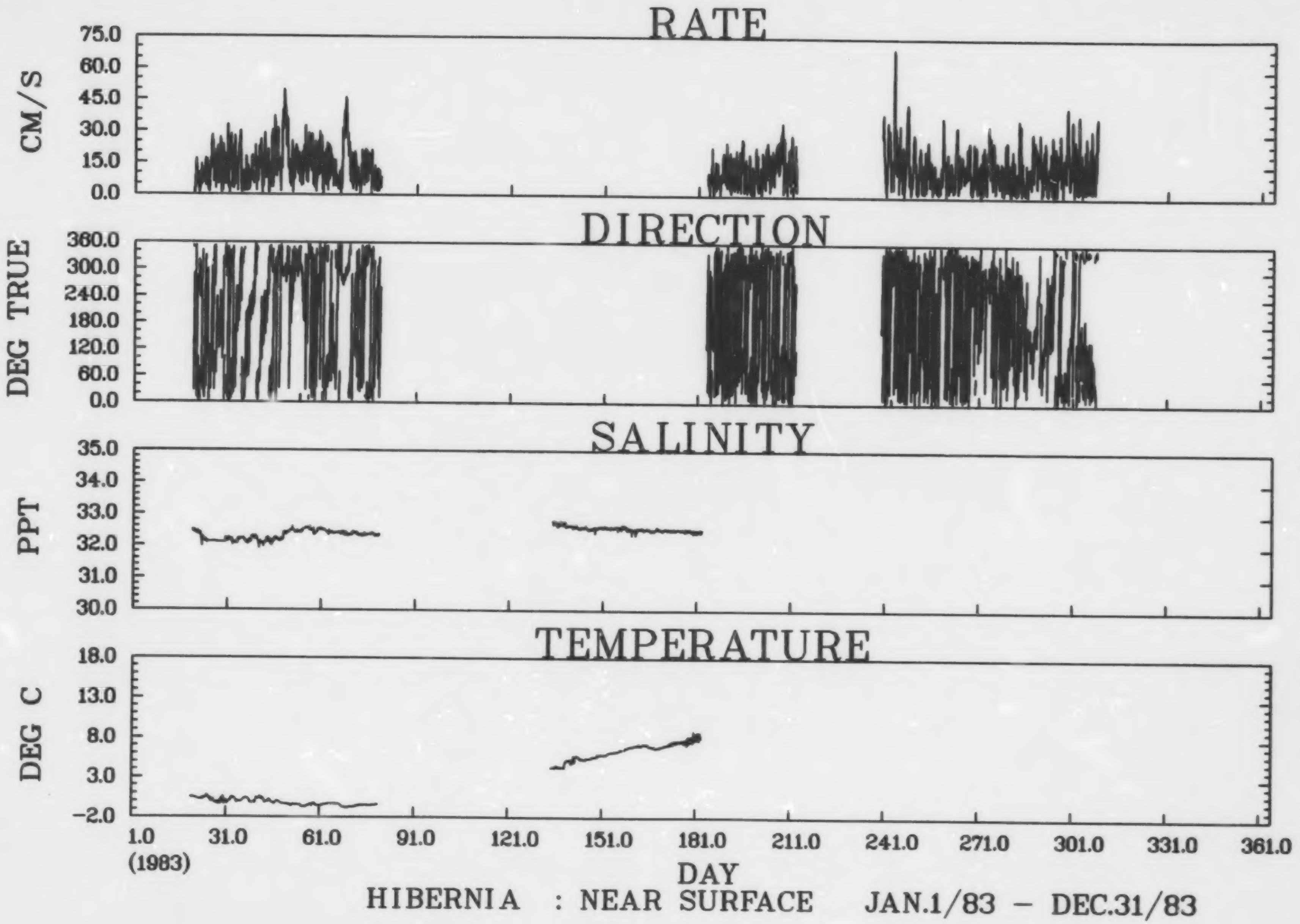


Figure 14(d). Near surface currents at 1 hour sampling for the Hibernia region for 1983.

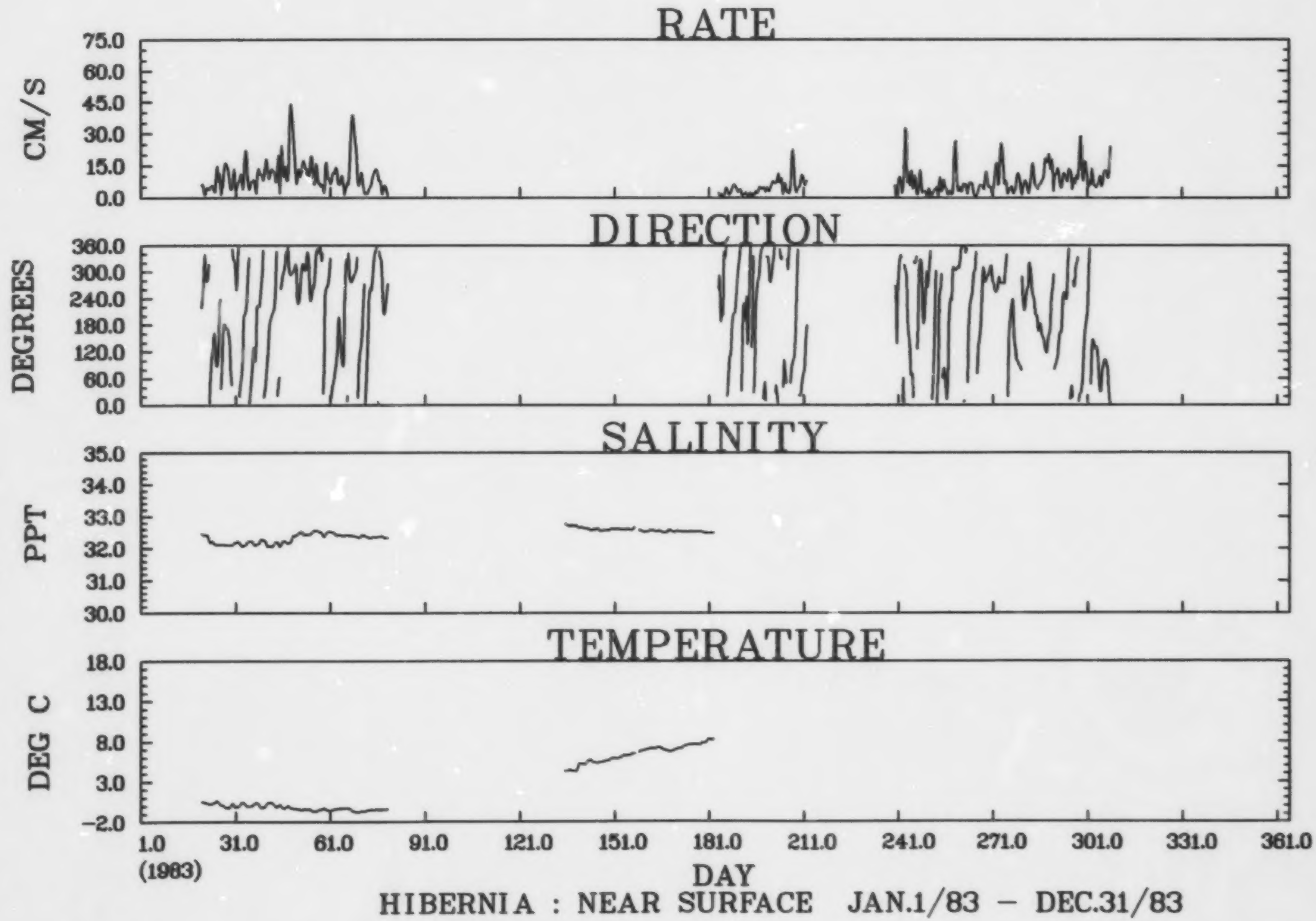


Figure 14(d'). Filtered time series of data shown in Figure 14(d).

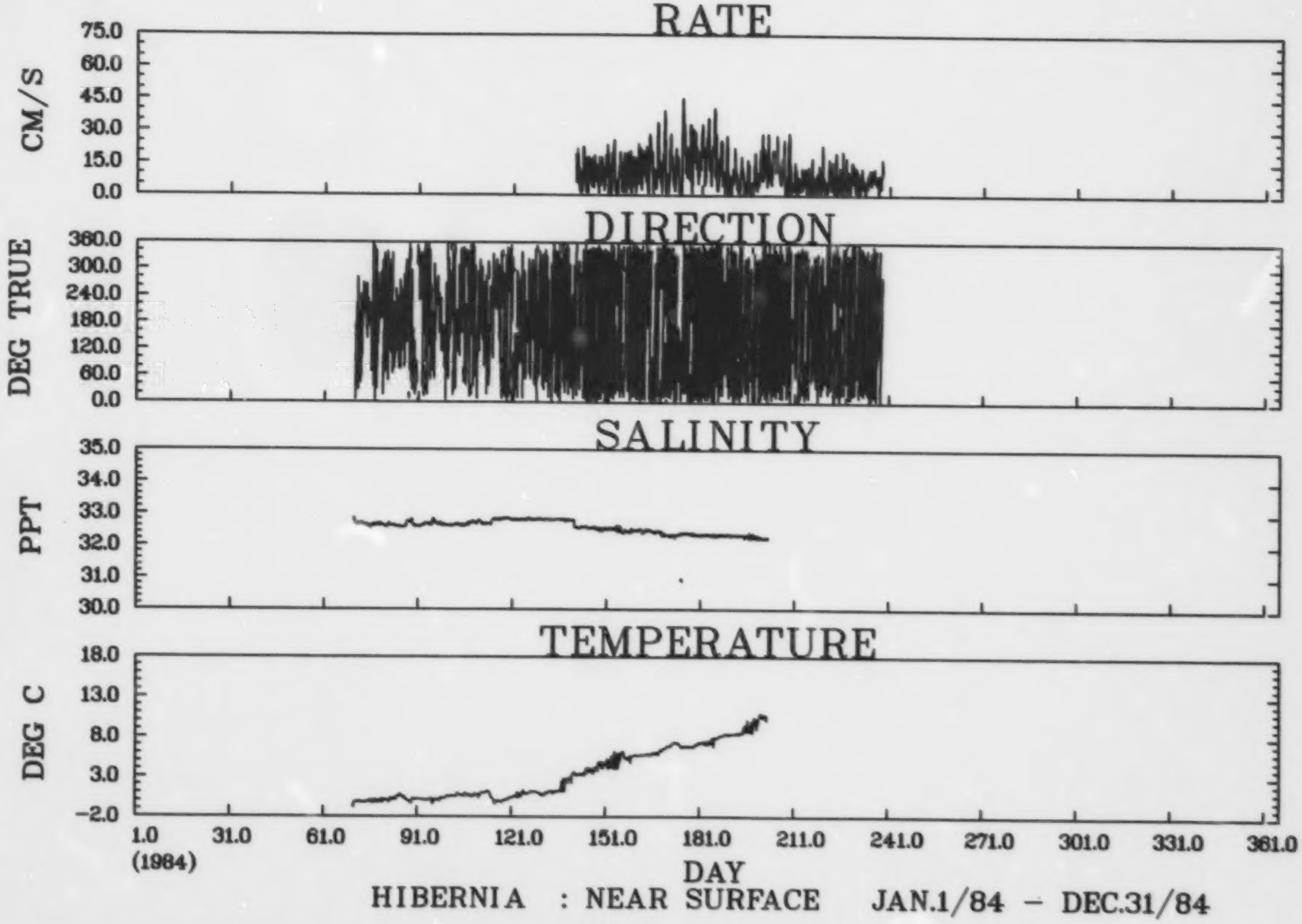


Figure 14(e). Near surface currents at 1 hour sampling for the Hibernia region for 1984.

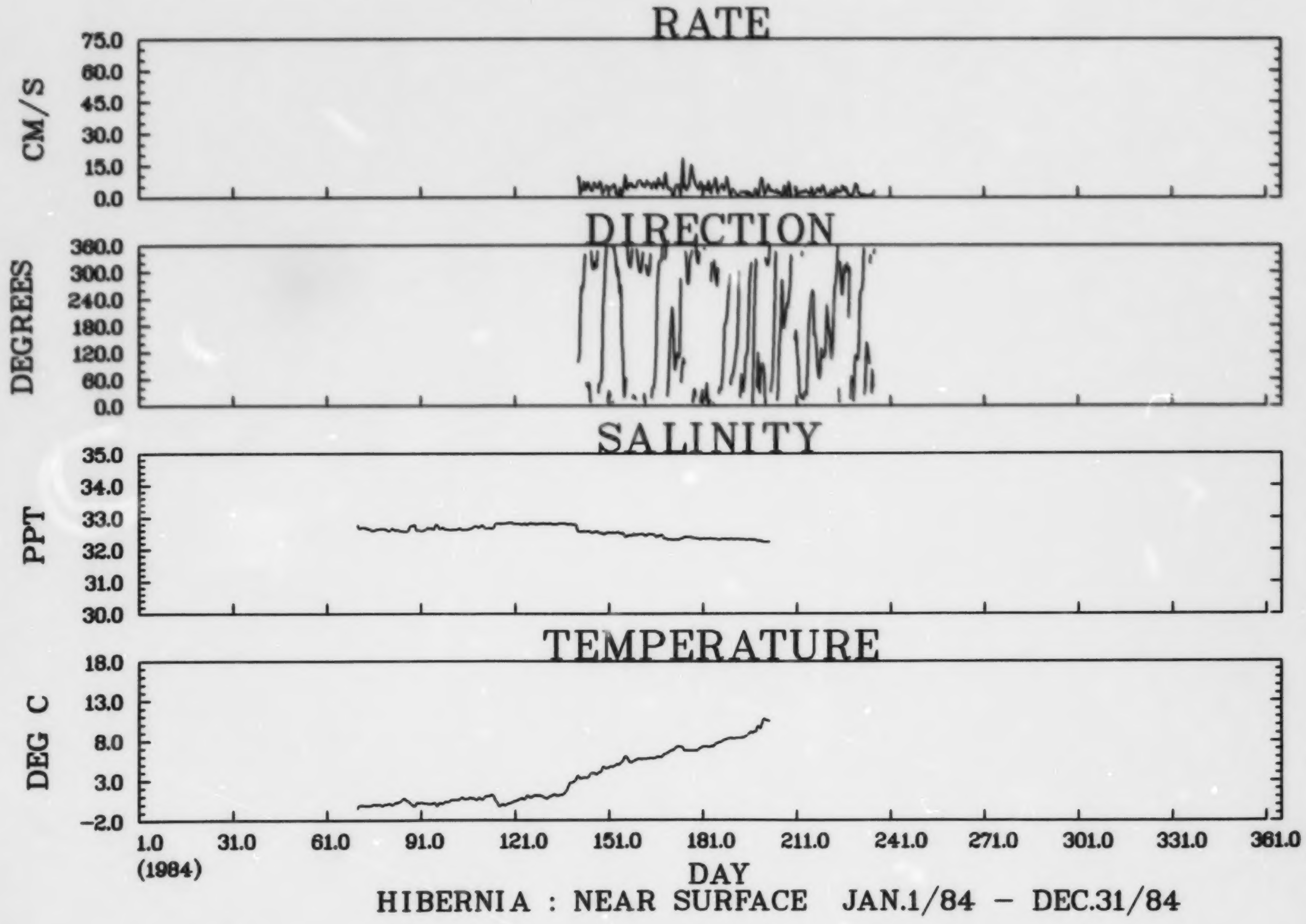


Figure 14(e'). Filtered time series of data shown in Figure 14(e).

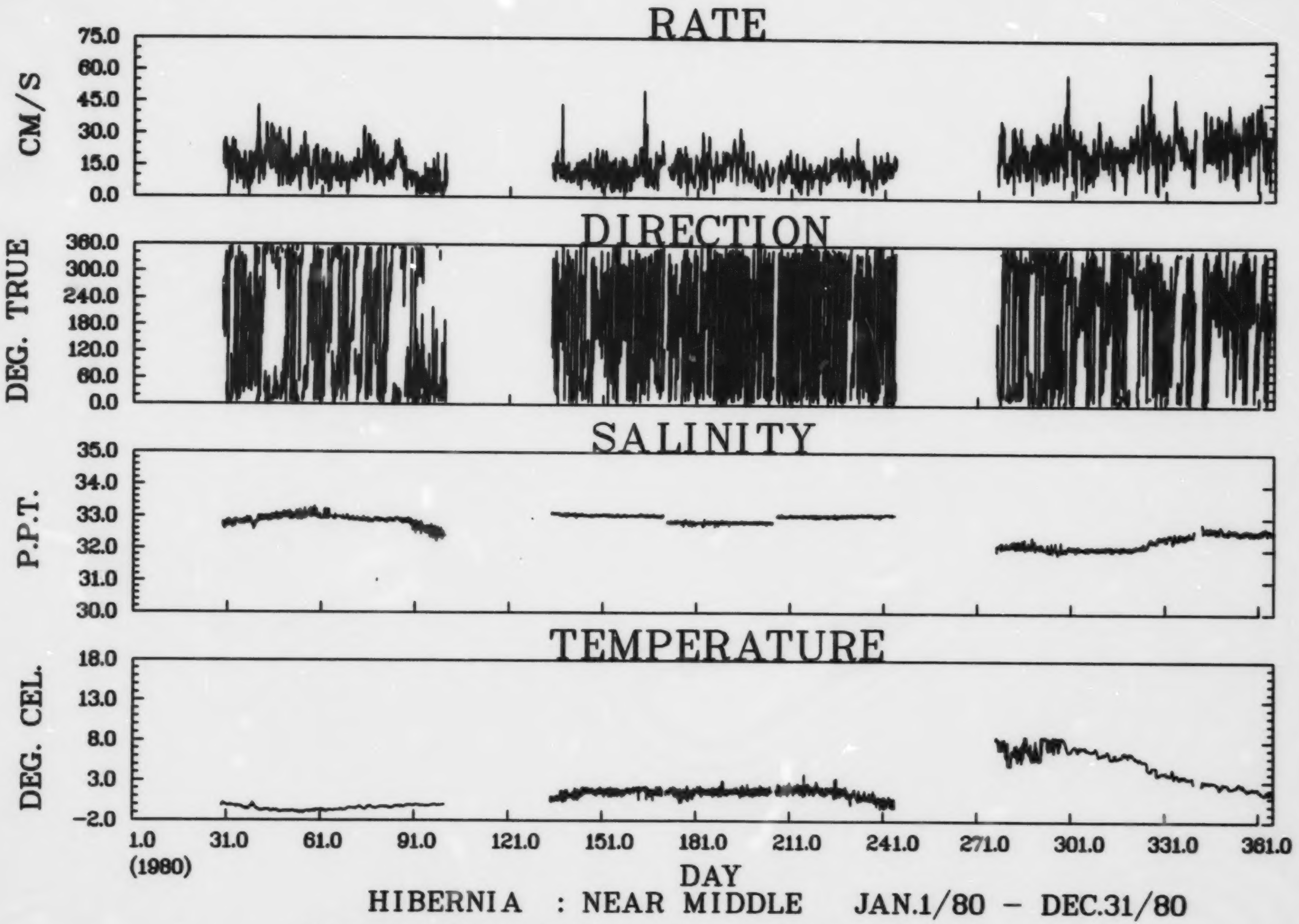


Figure 15(a). Mid-depth (35-50) currents for the Hibernia region for 1980 formed in the same manner as the surface currents.

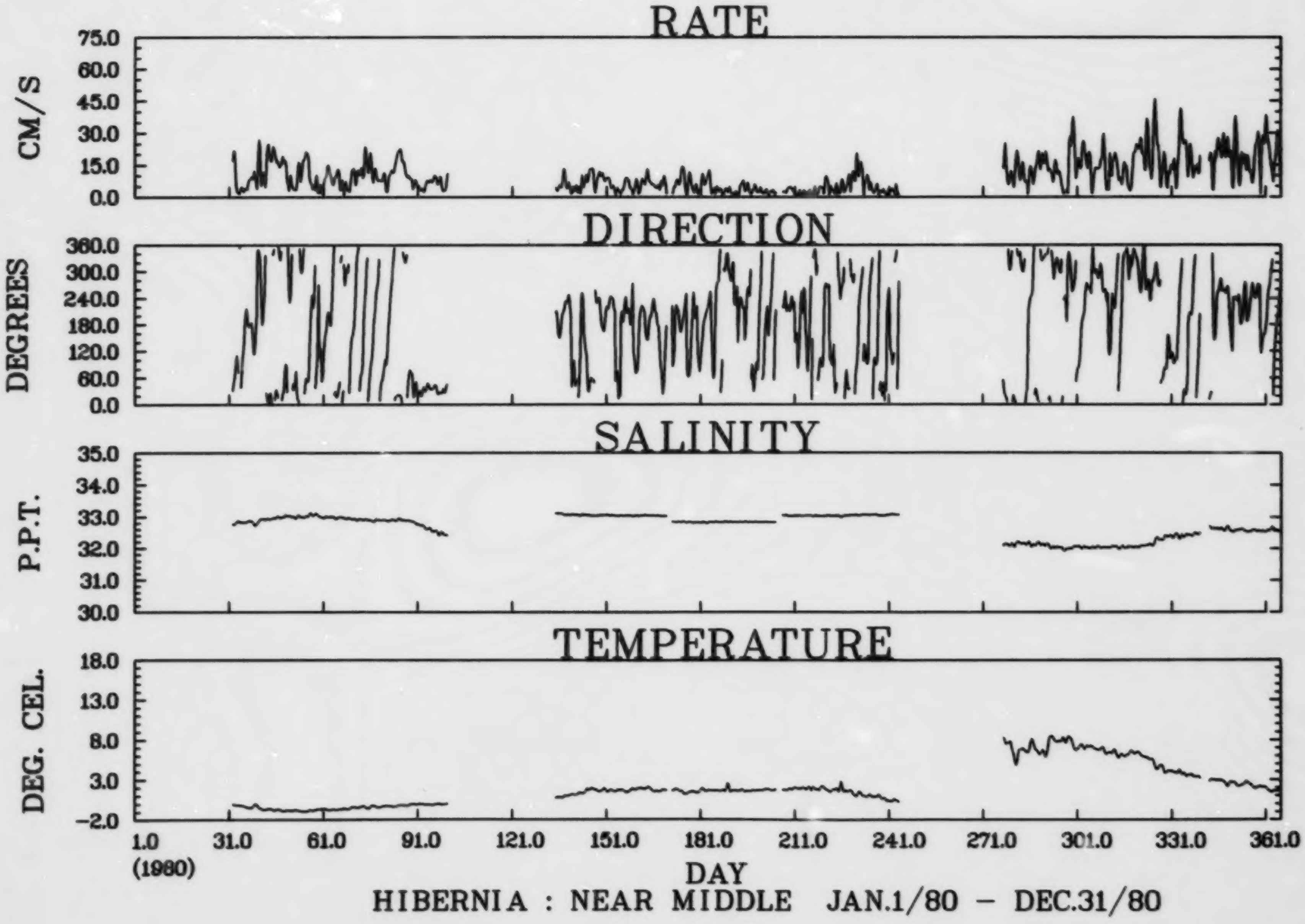


Figure 15(a'). Filtered time series of data shown in Figure 15(a).

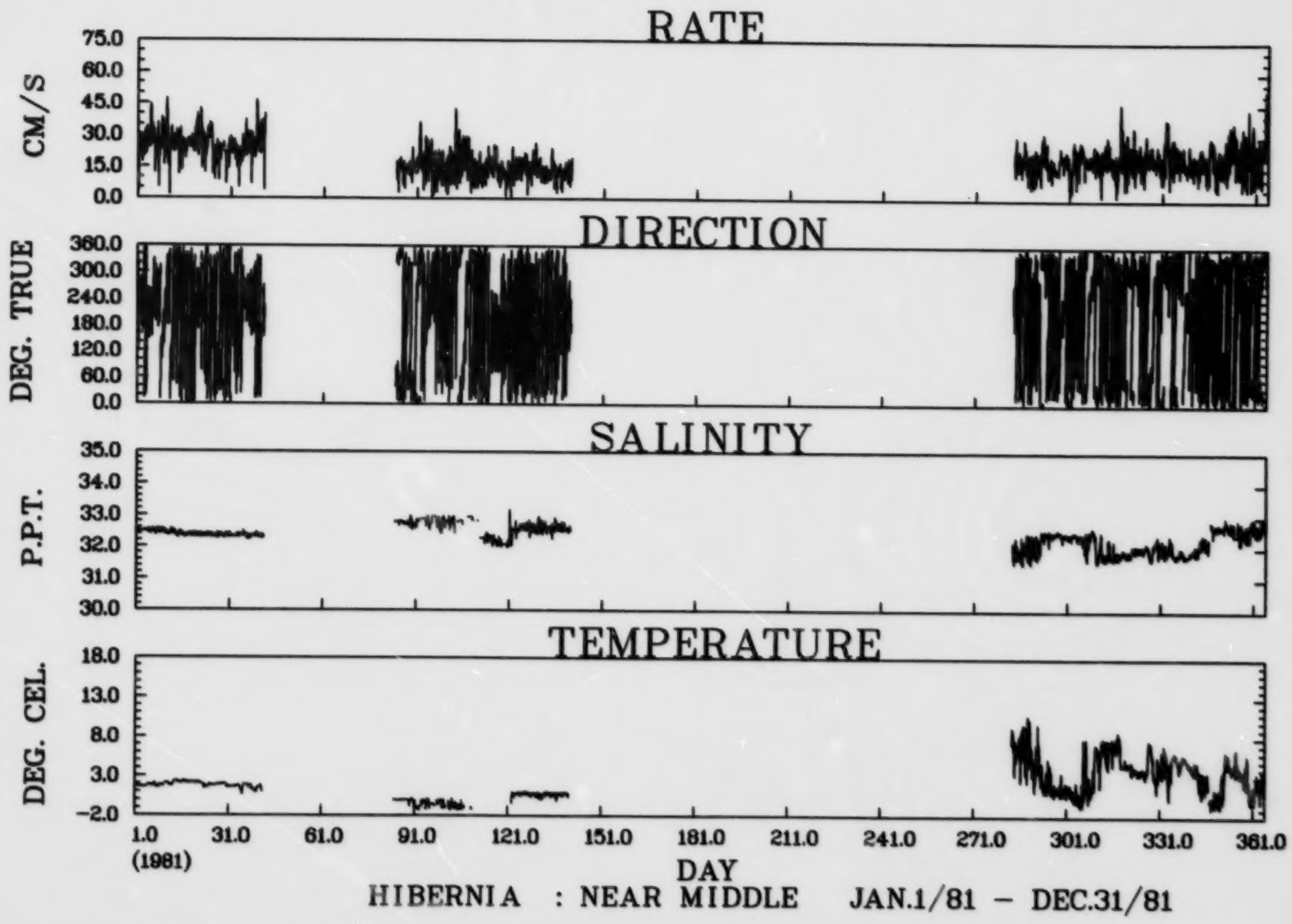


Figure 15(b). Mid-depth currents for the Hibernia region for 1981.

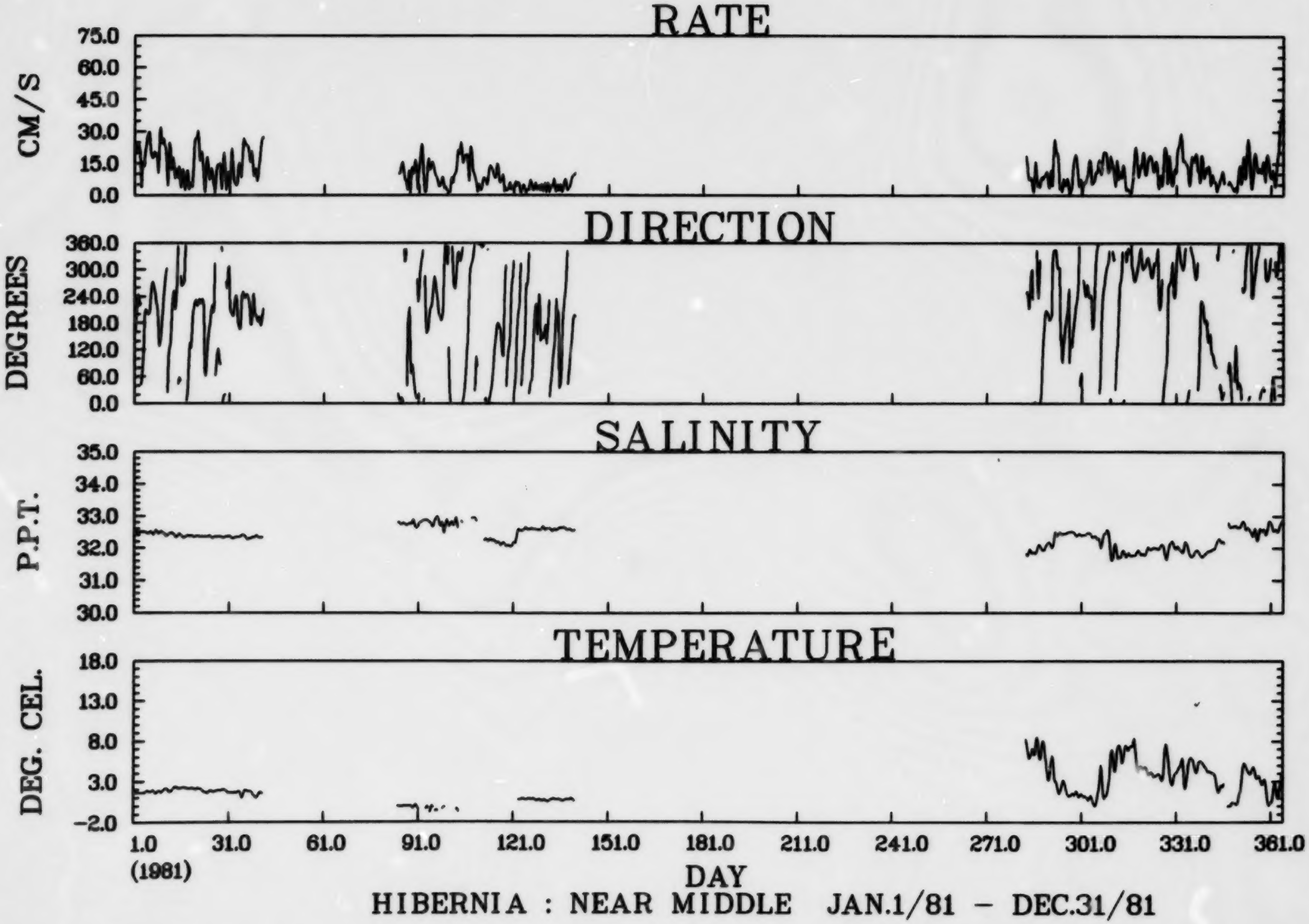


Figure 15(b'). Filtered time series of data shown in Figure 15(b).

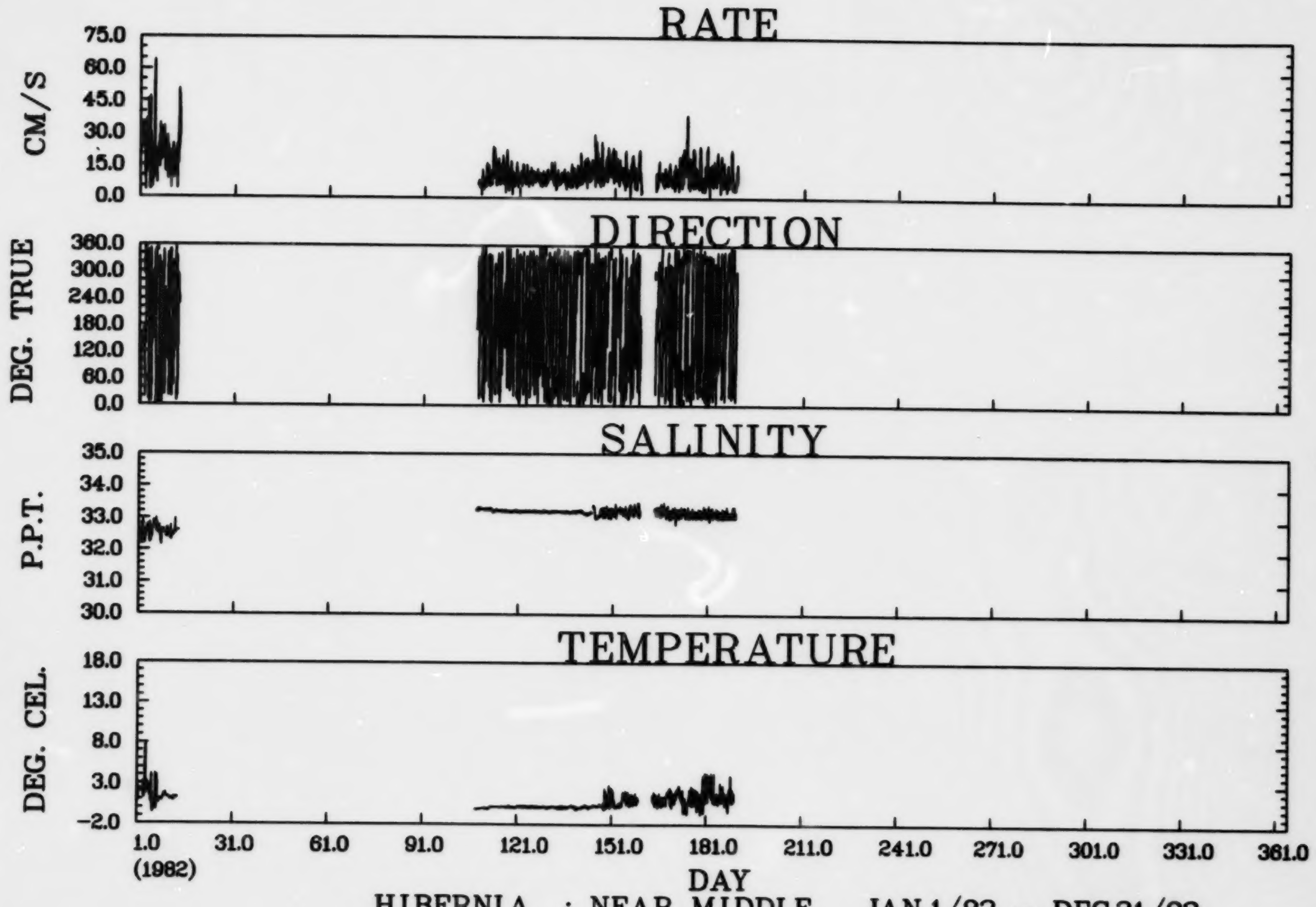


Figure 15(c). Mid-depth currents for the Hibernia region for 1982.

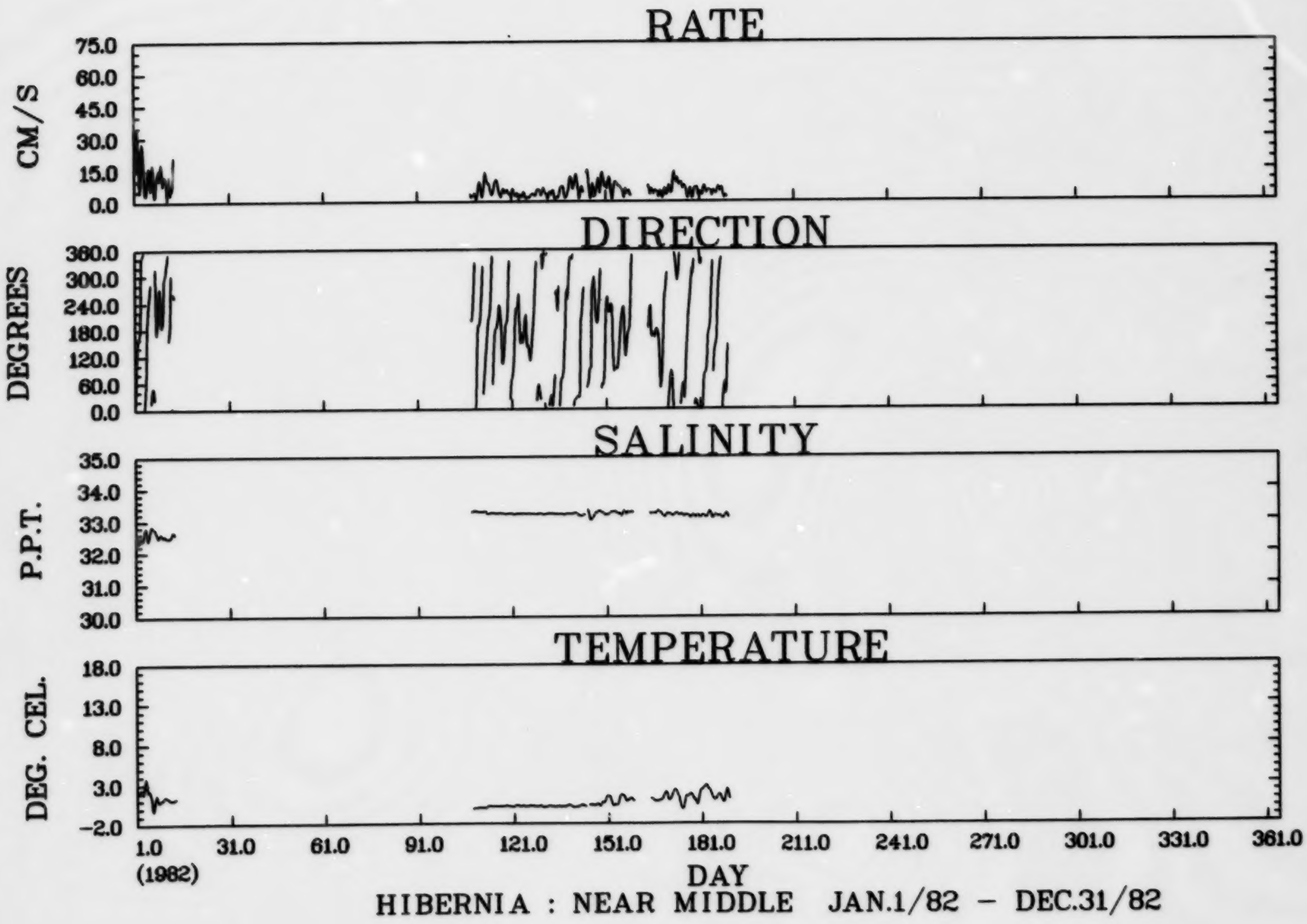


Figure 15(c′). Filtered time series of data shown in Figure 15(c).

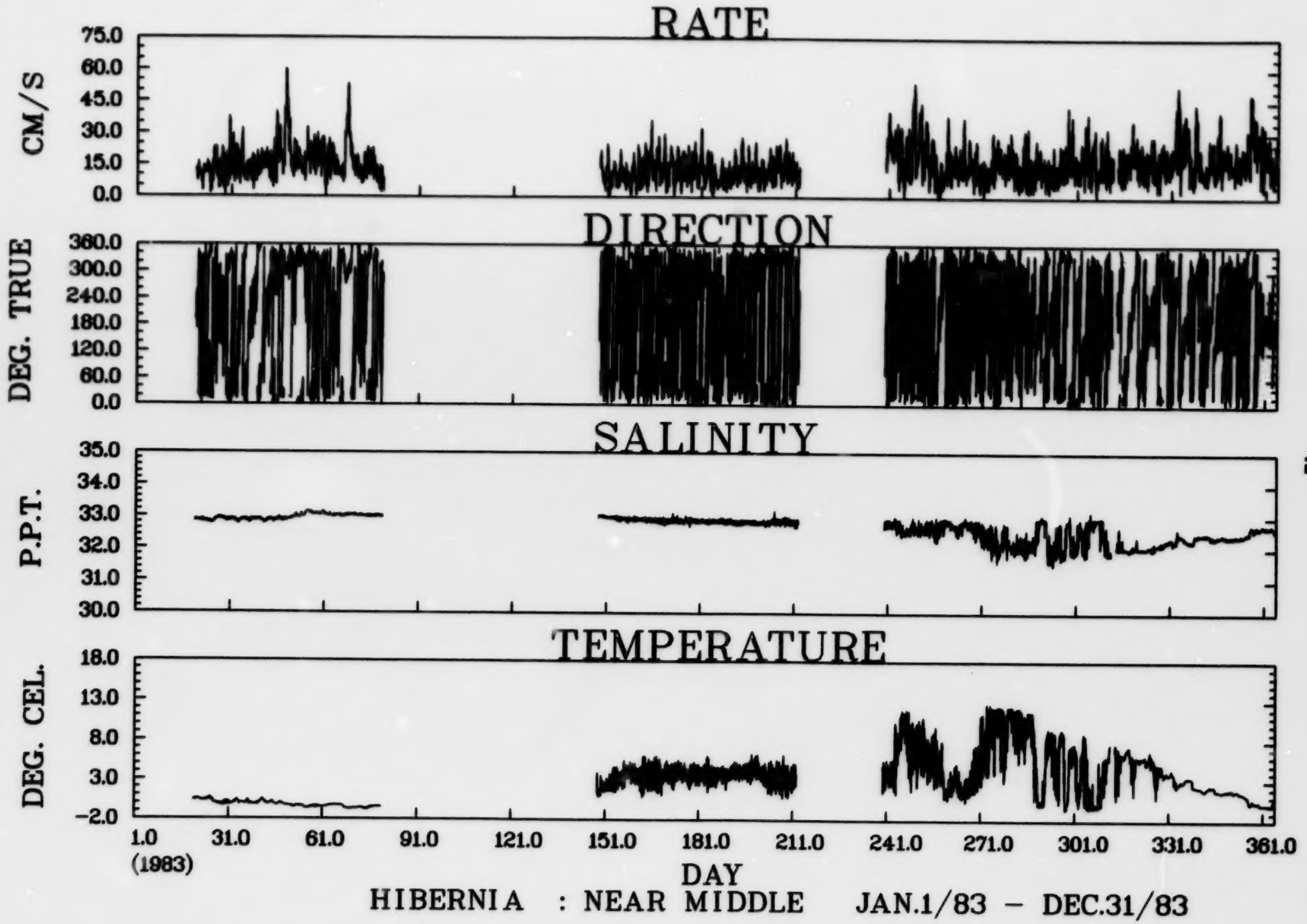


Figure 15(d). Mid-depth currents for the Hibernia region for 1983.

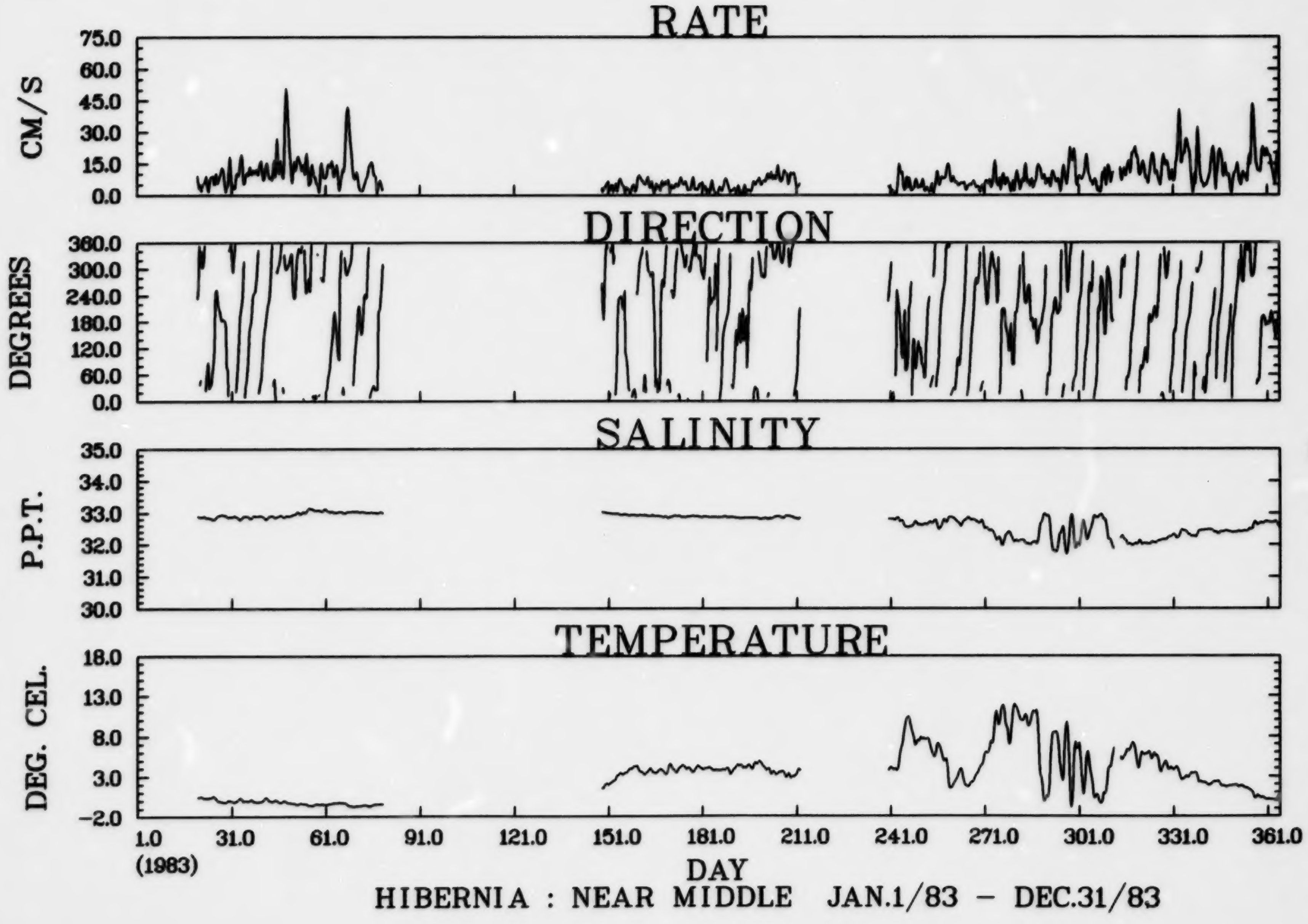


Figure 15(d'). Filtered time series of data shown in Figure 15(d).

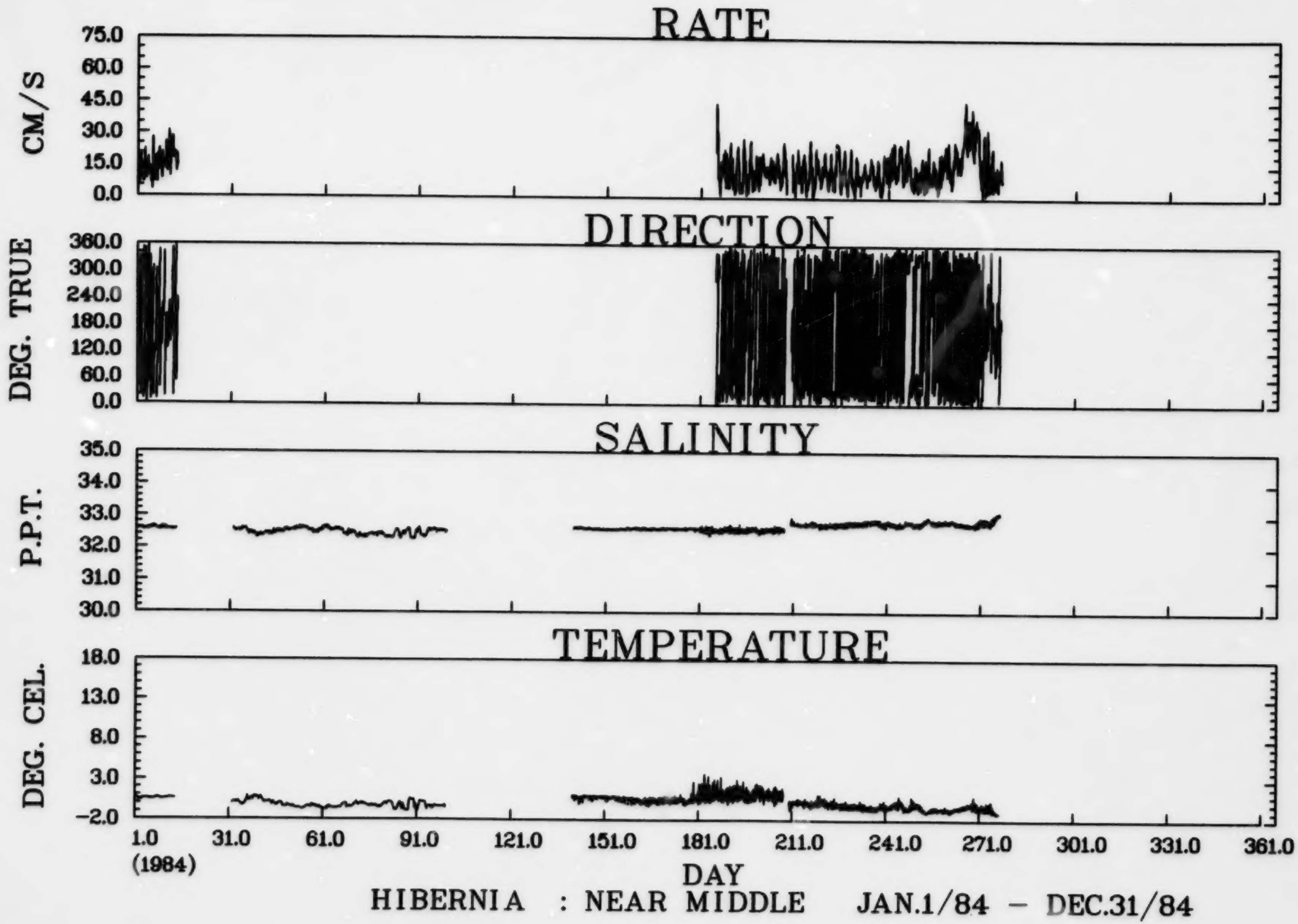


Figure 15(e). Mid-depth currents for the Hibernia region for 1984.

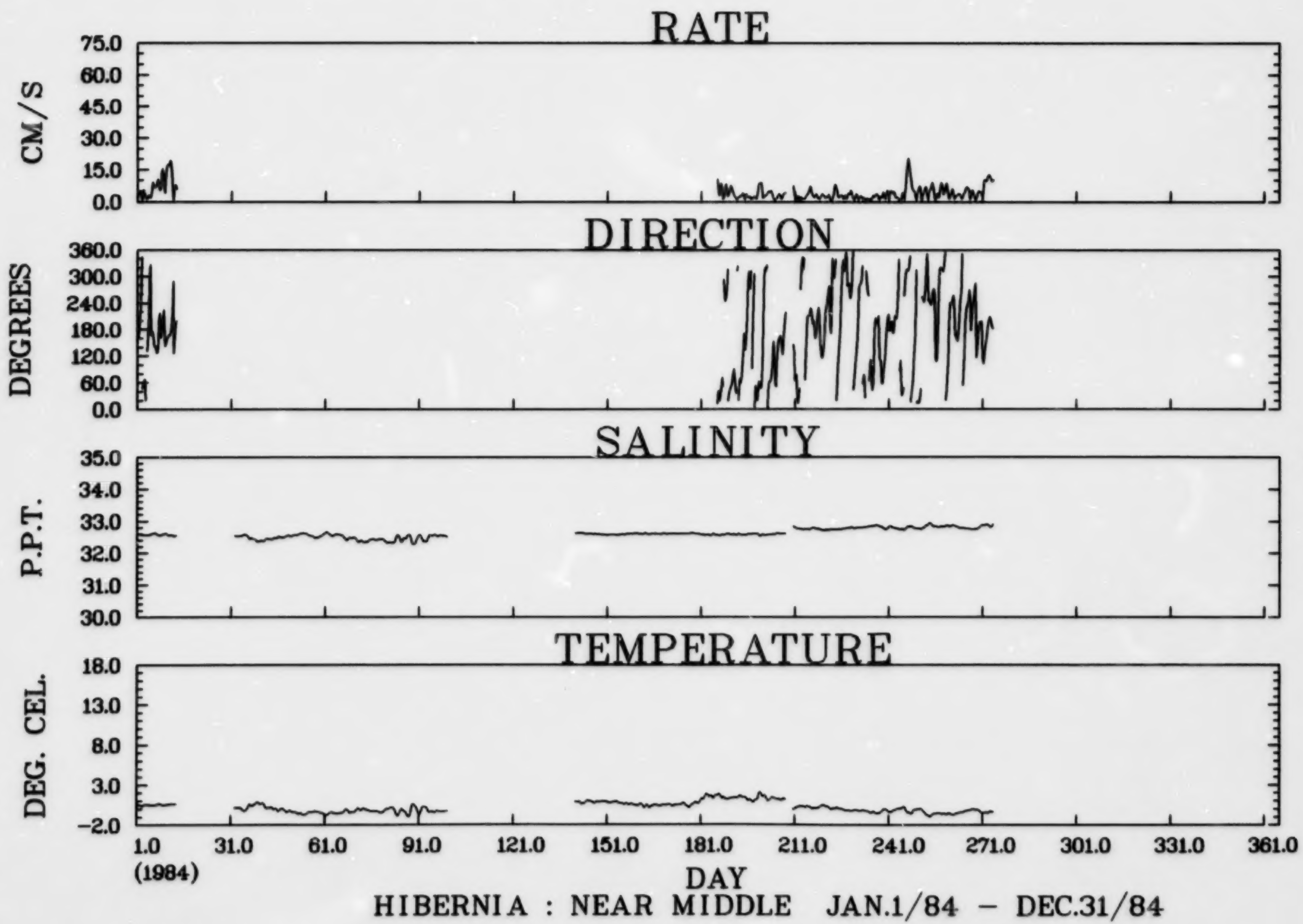


Figure 15(e'). Filtered time series of data shown in Figure 15(e).

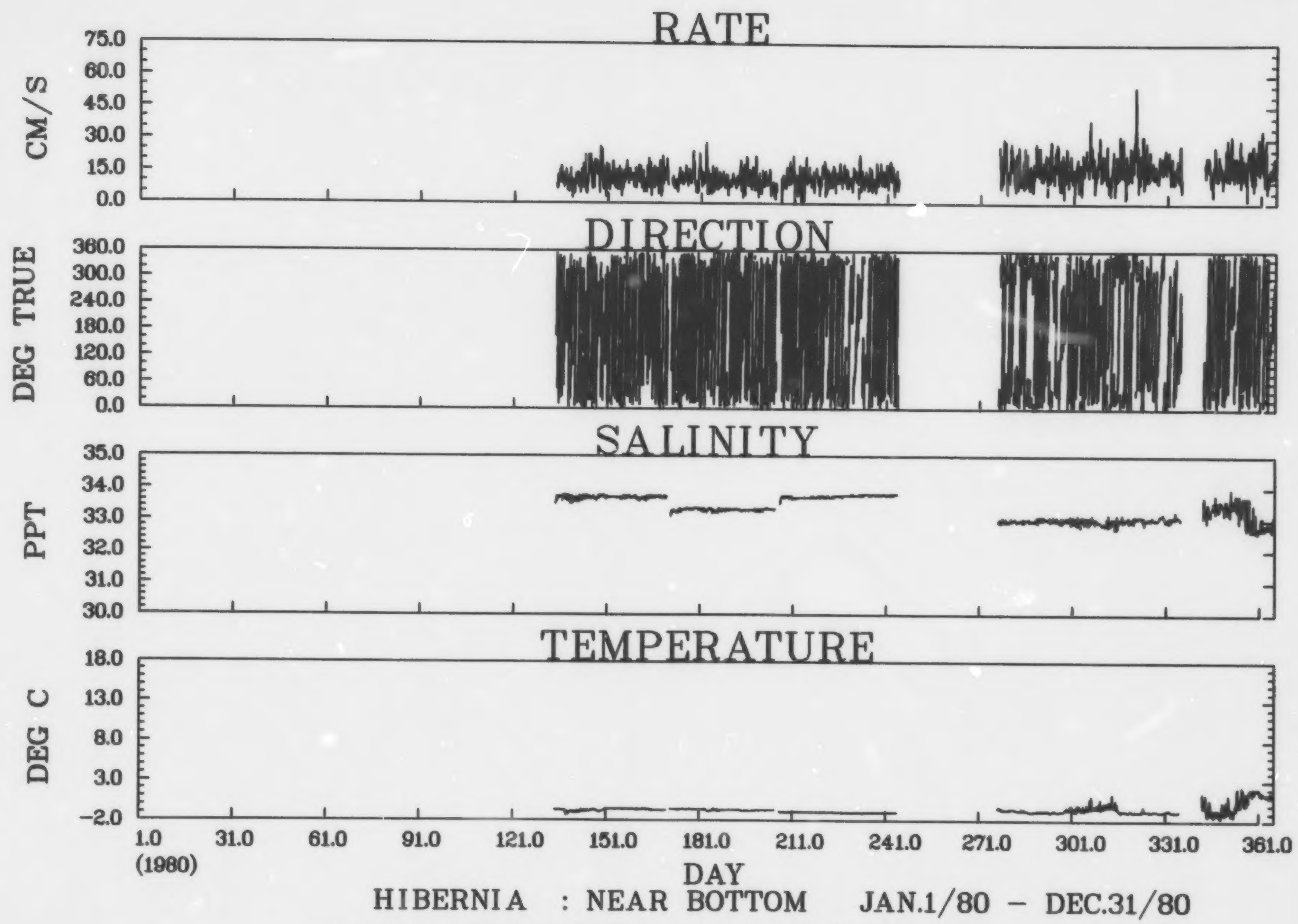


Figure 16(a). Near bottom (>50m) currents for the Hibernia region for 1980 formed in the same manner as the surface currents.

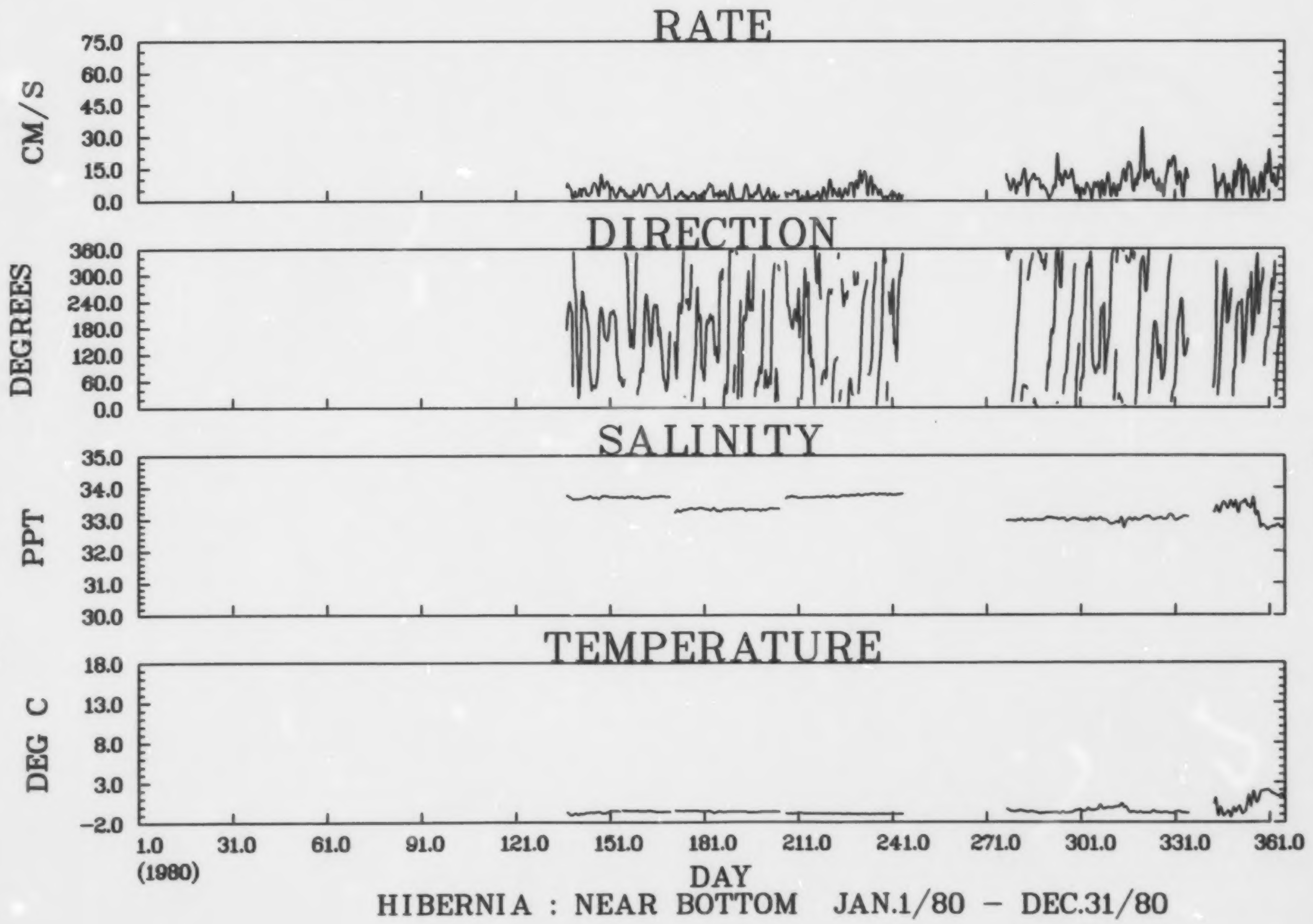


Figure 16(a'). Filtered time series of data shown in Figure 16(a).

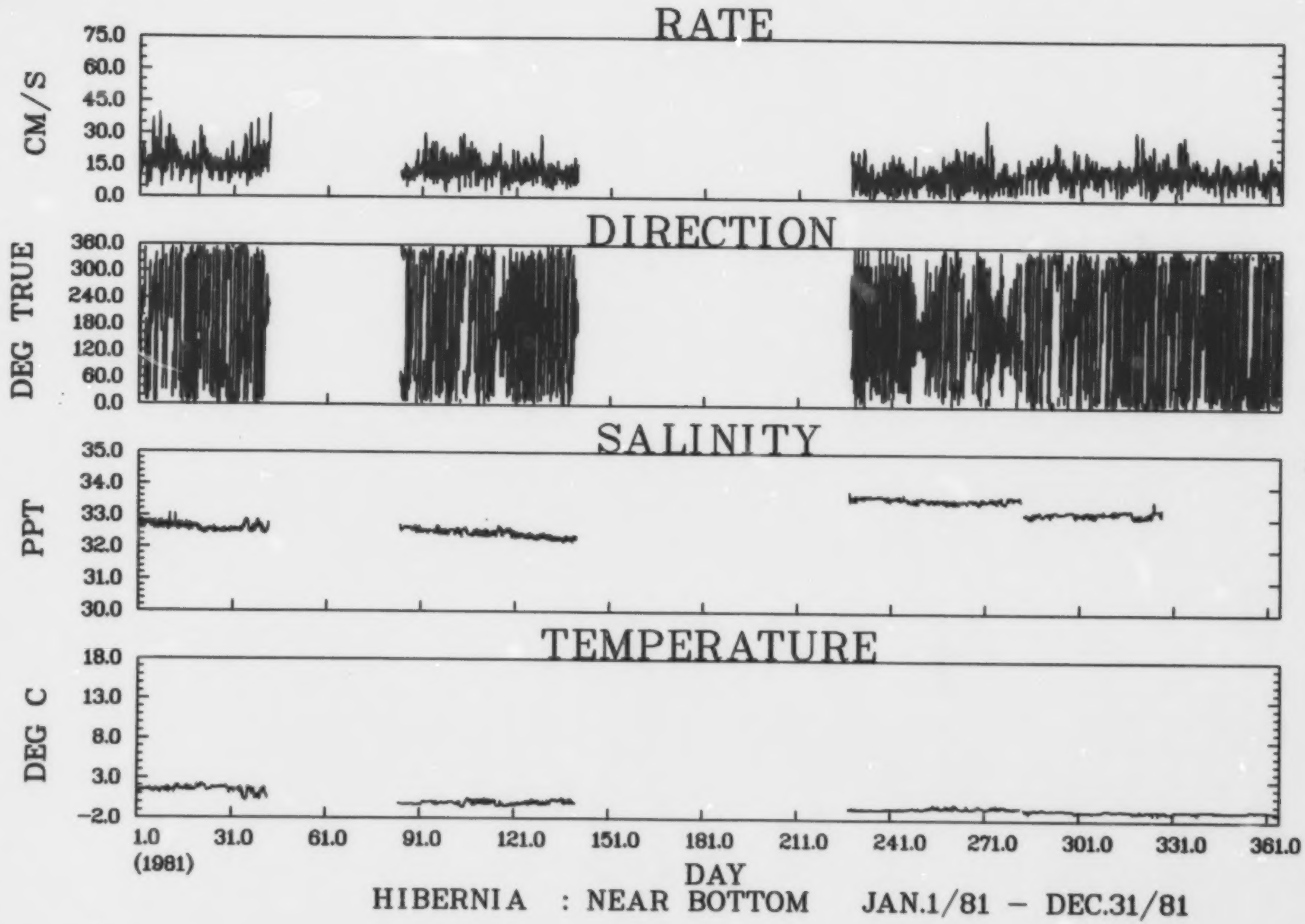


Figure 16(b). Near bottom currents for the Hibernia region for 1981.

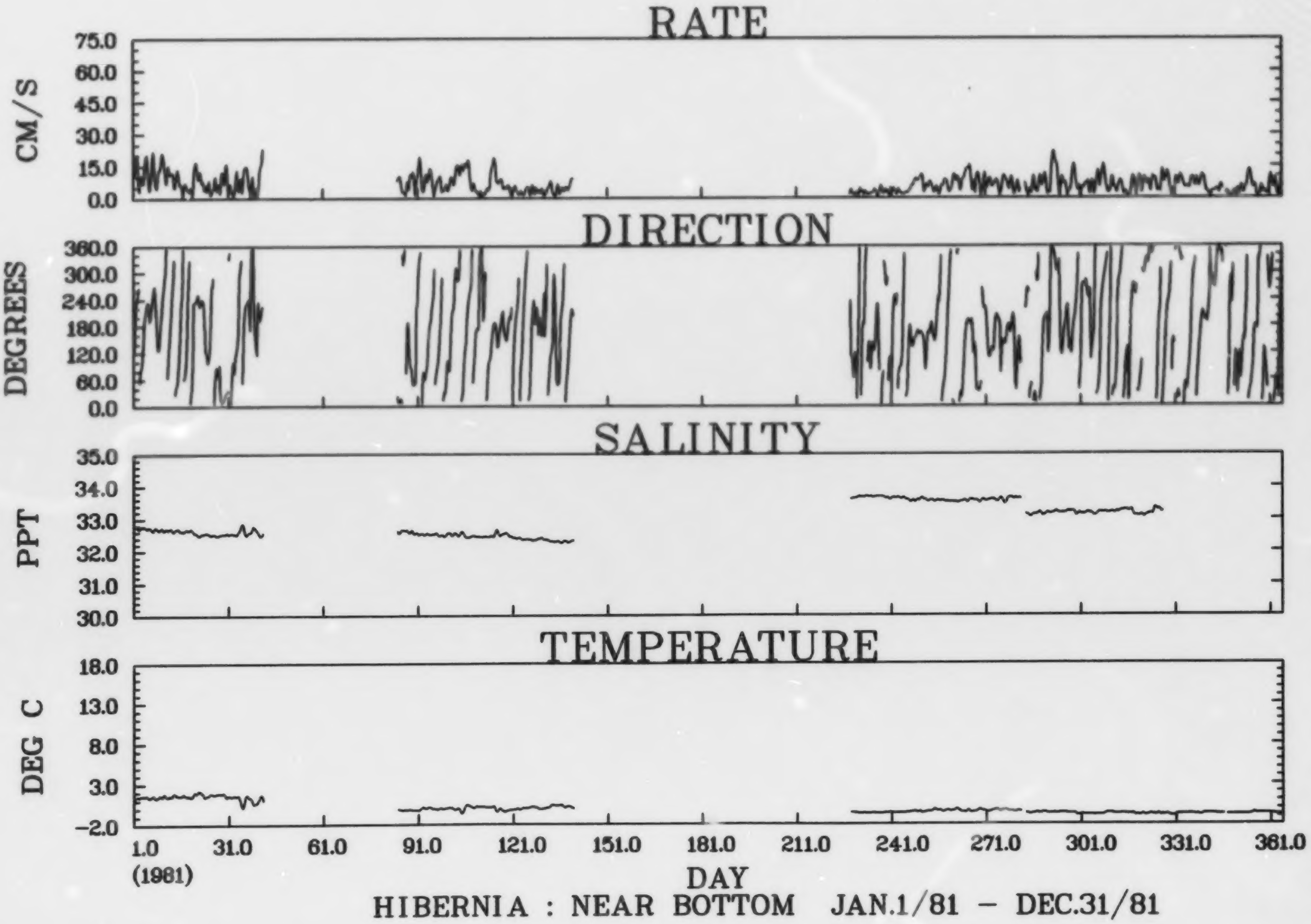


Figure 16(b'). Filtered time series of data shown in Figure 16(b).

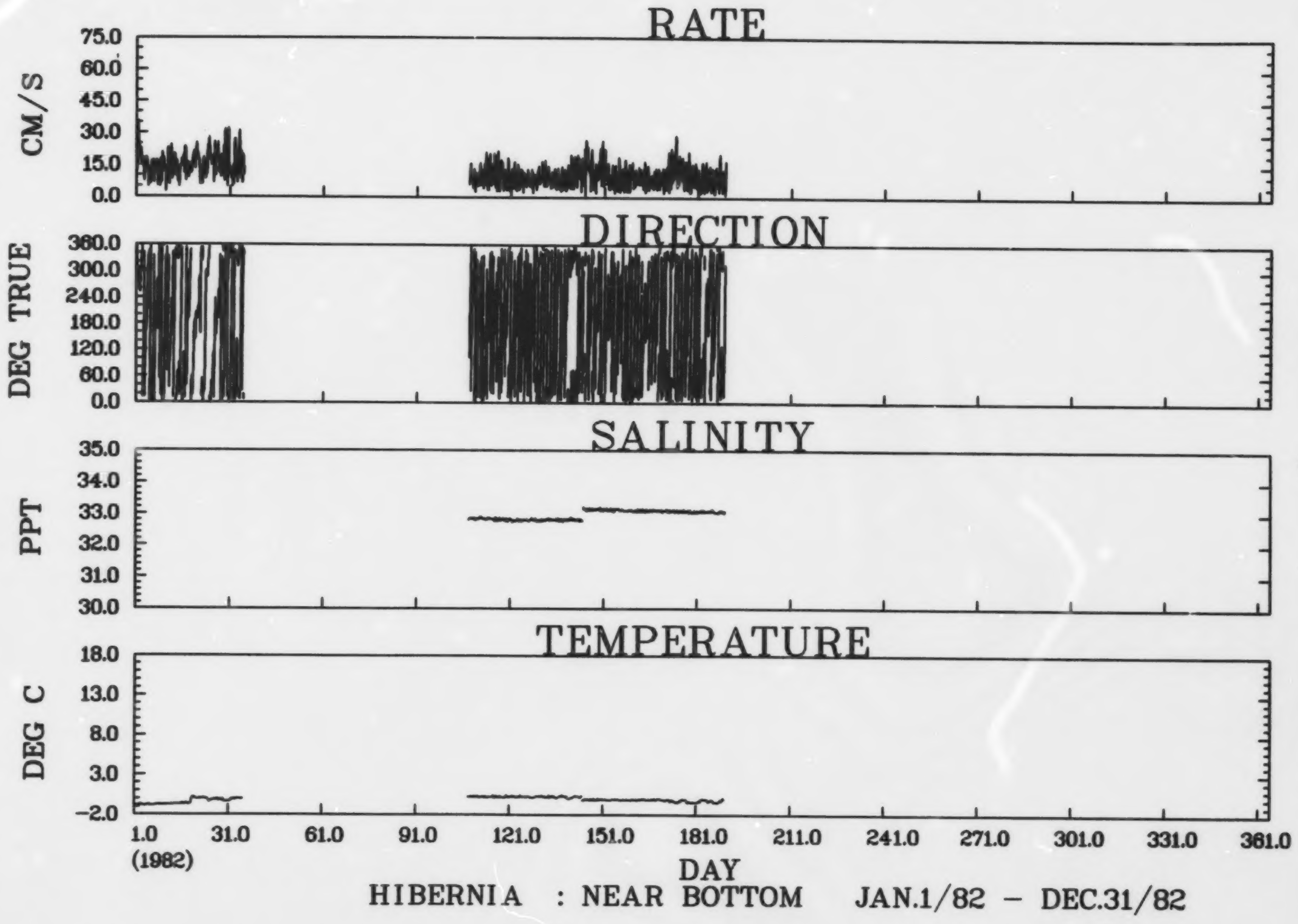


Figure 16(c). Near bottom currents for the Hibernia region for 1982.

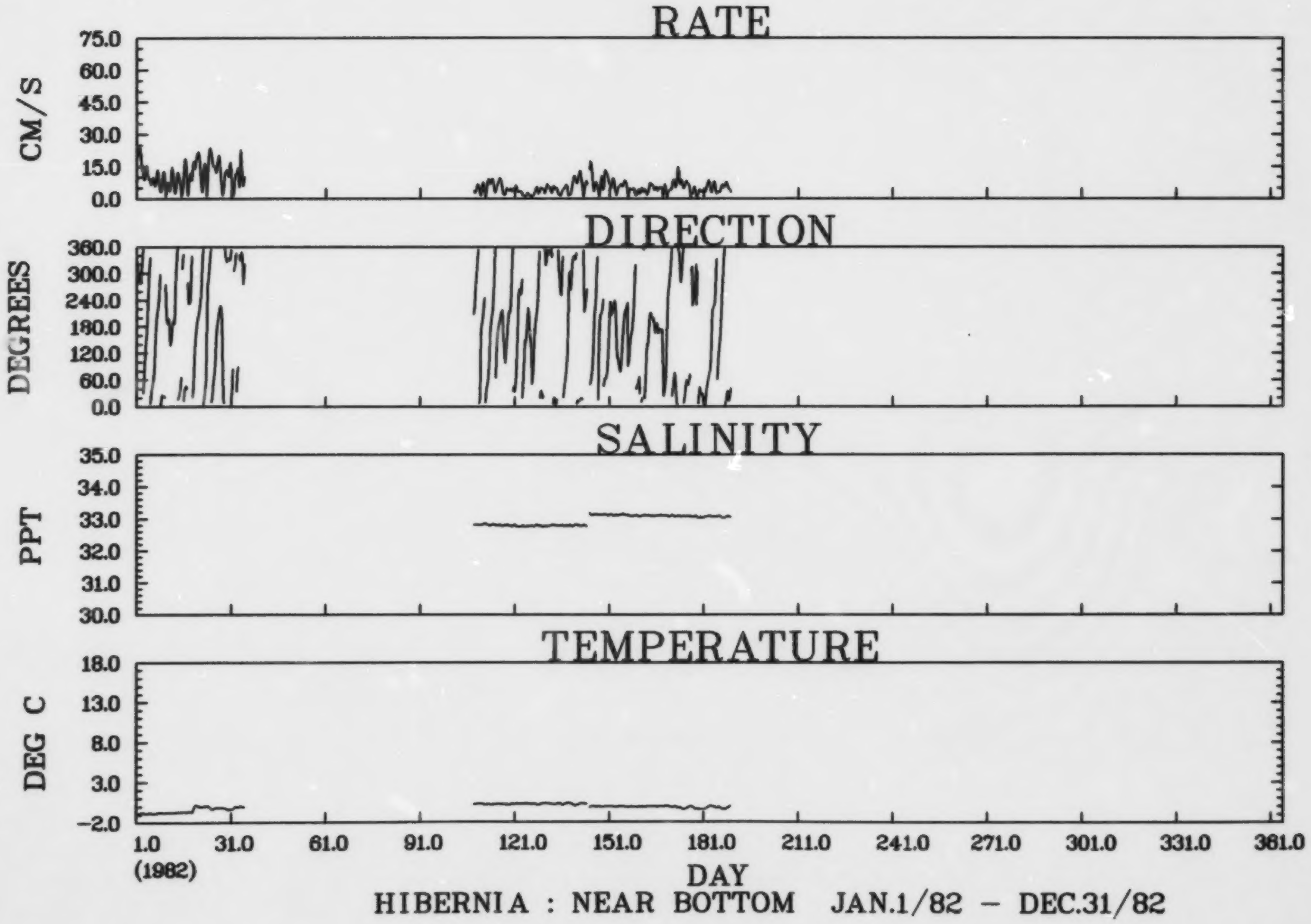


Figure 16(c'). Filtered time series of data shown in Figure 16(c).

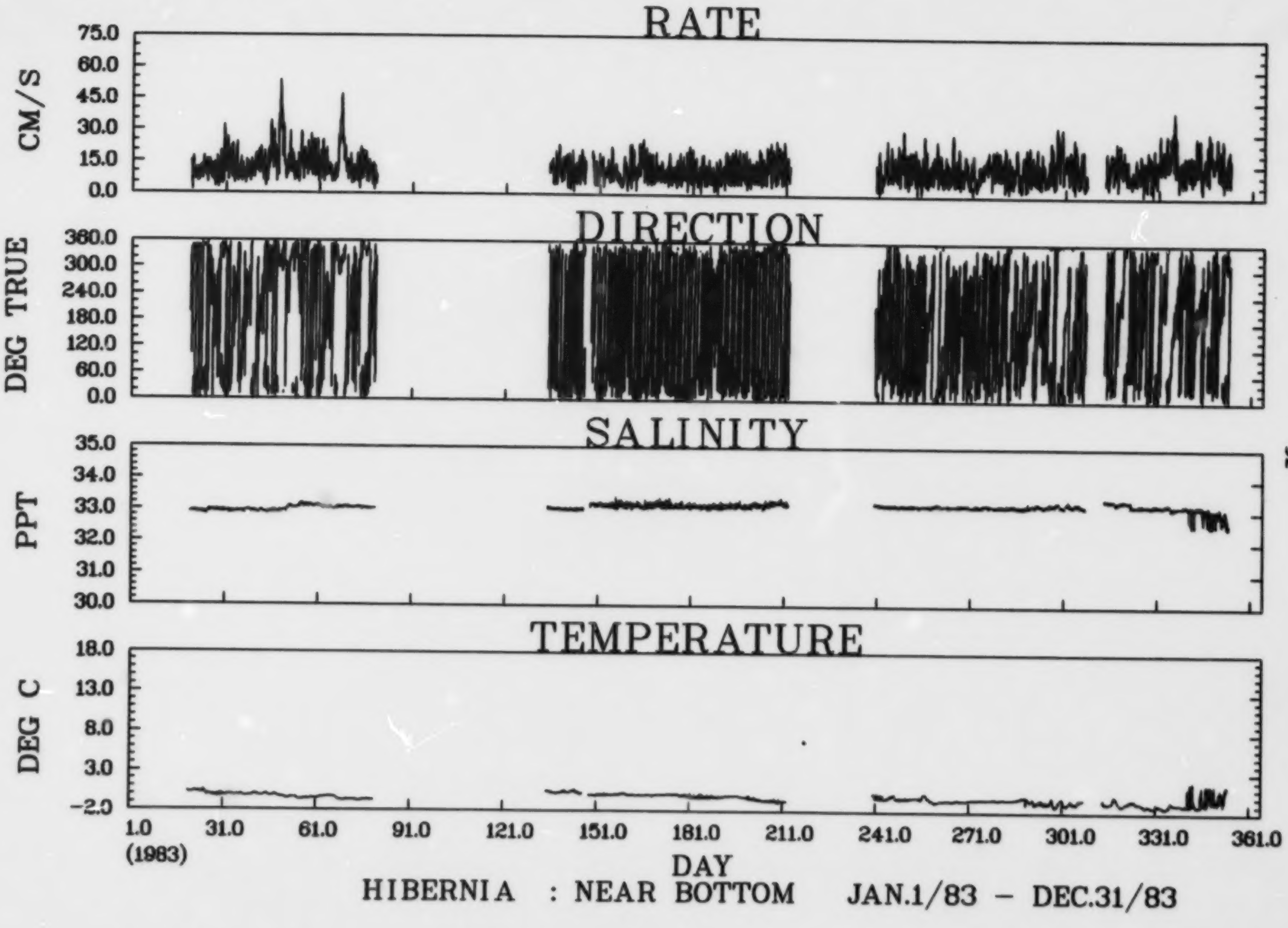


Figure 16(d). Near bottom currents for the Hibernia region for 1983.

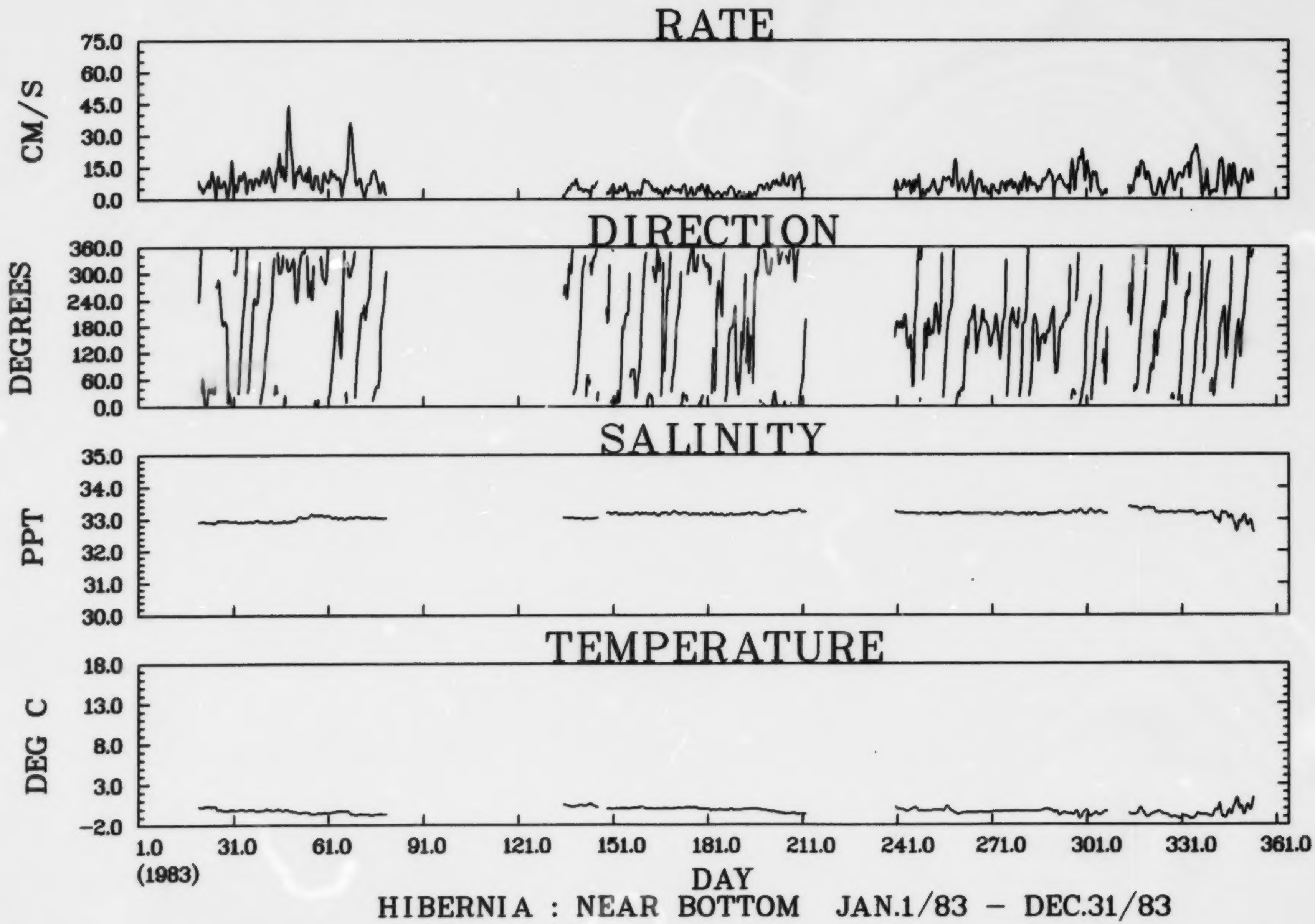


Figure 16(d'). Filtered time series of data shown in Figure 16(d).

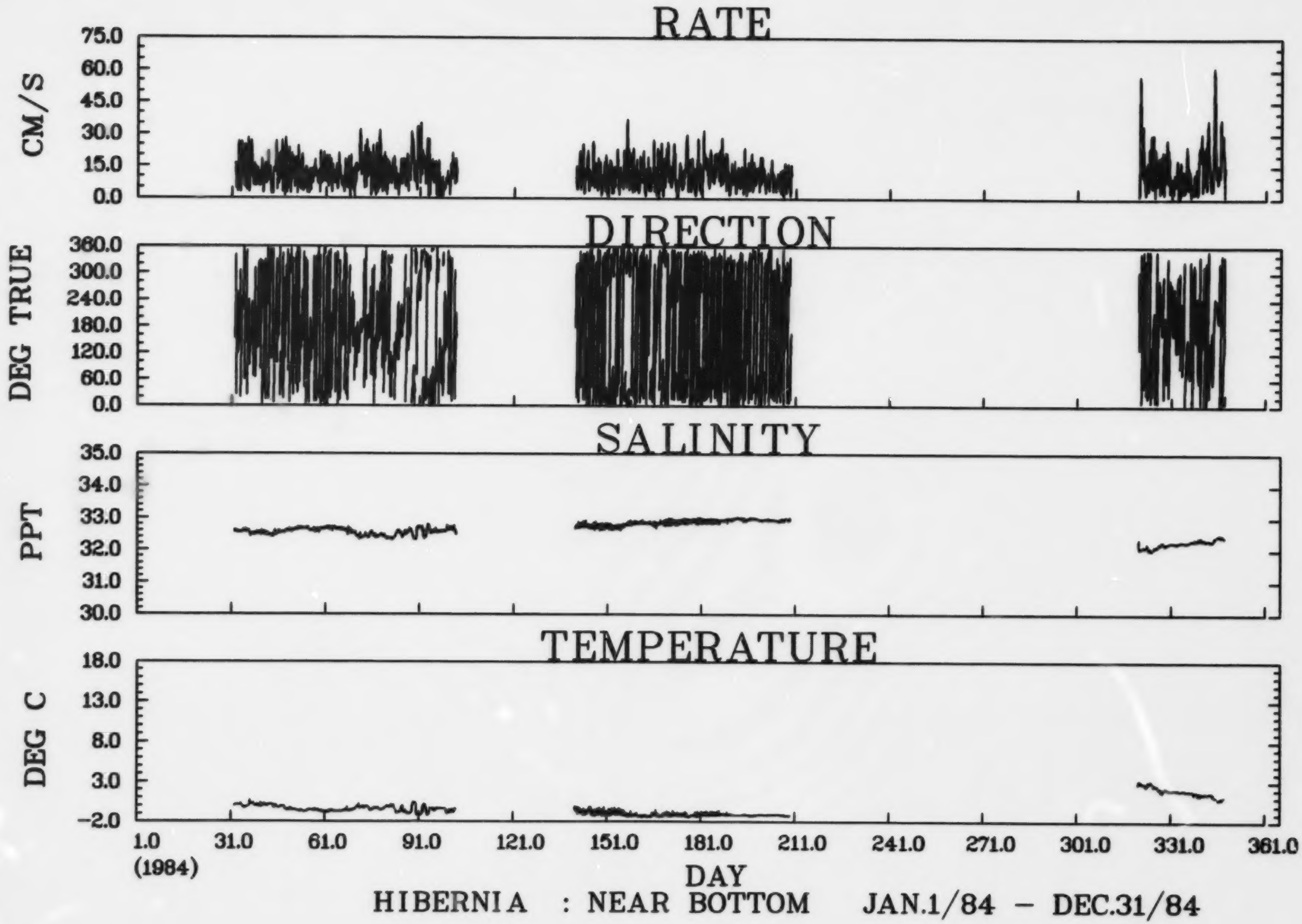


Figure 16(e). Near bottom currents for the Hibernia region for 1984.

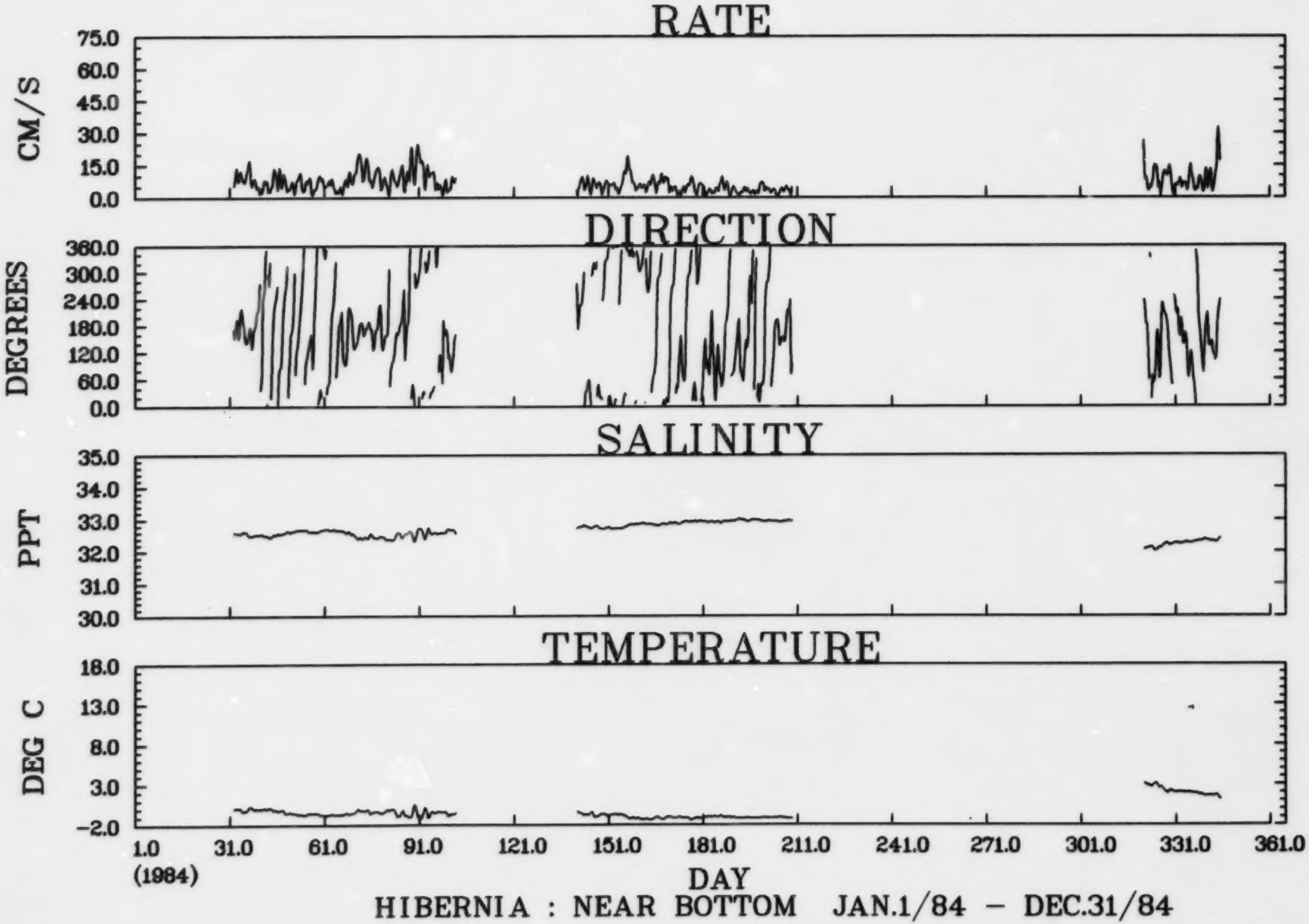


Figure 16(e'). Filtered time series of data shown in Figure 16(e).

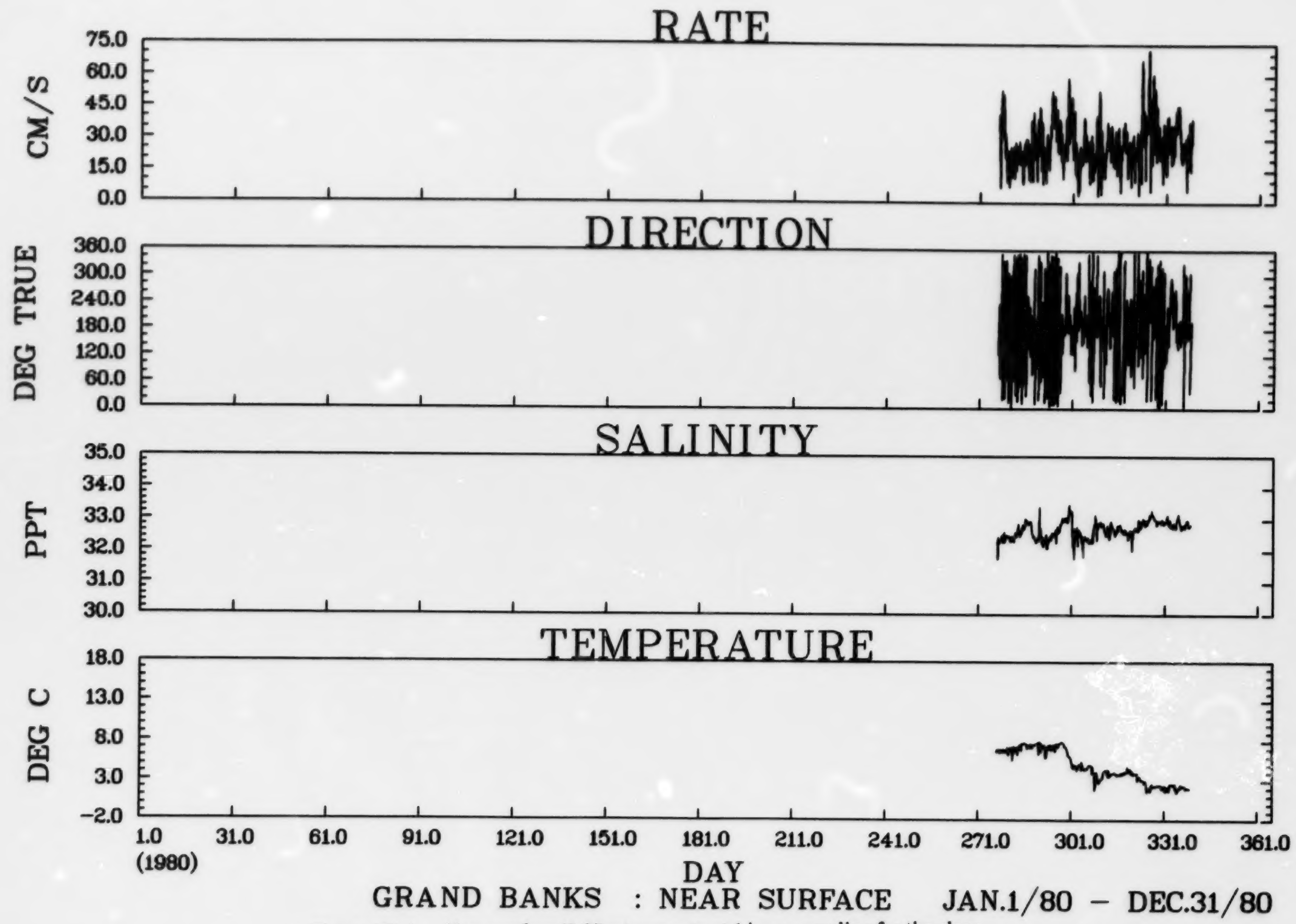


Figure 17(a). Near surface (0-35 m) currents at 1 hour sampling for the slope area of the Grand Banks near Hibernia for 1980. This time se[illegible]was [illegible]ructed by joi[illegible] rec[illegible] from [illegible]tions where the total water depth exceeded 100 m.

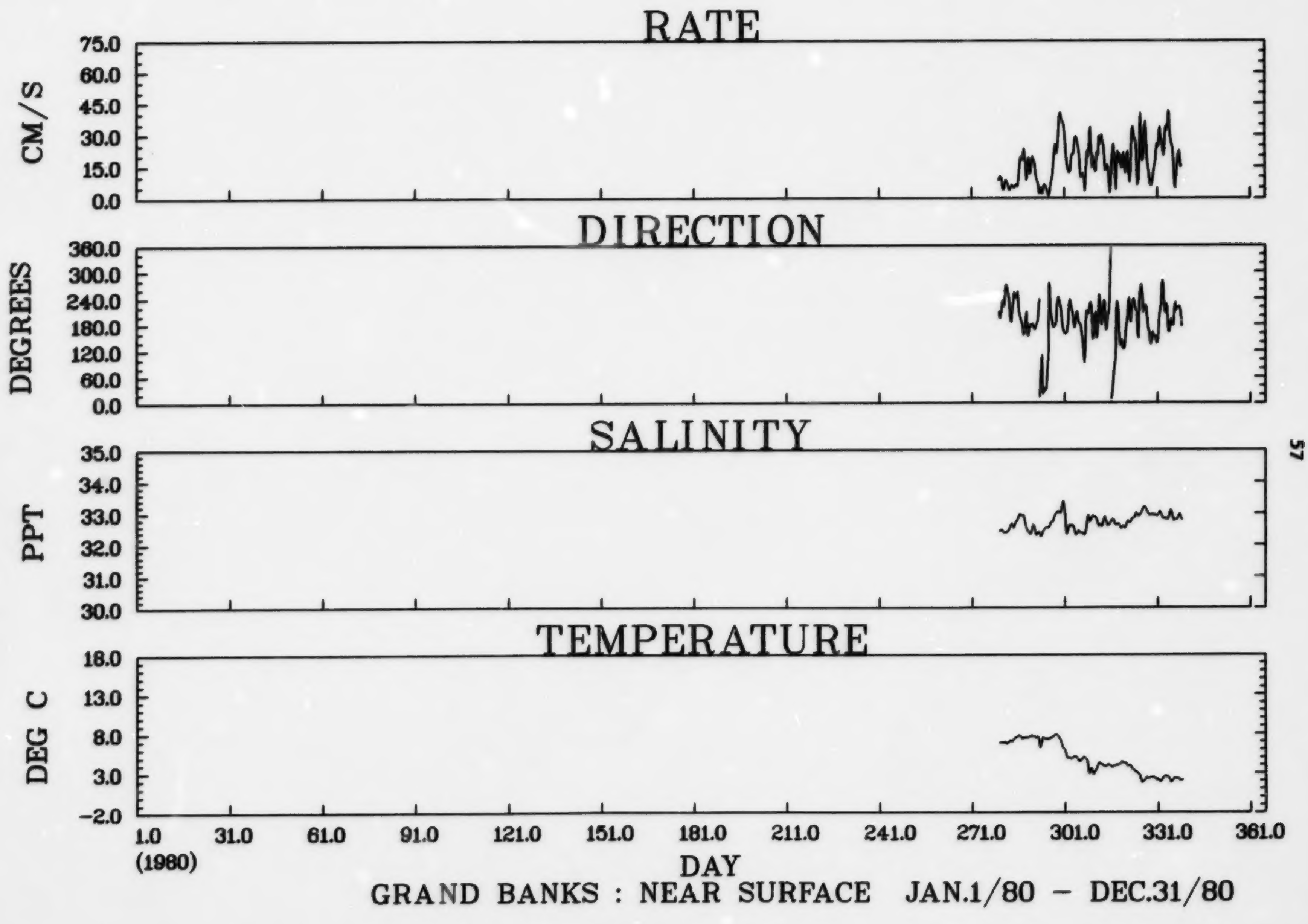


Figure 17(a'). Filtered time series of data shown in Figure 17(a).

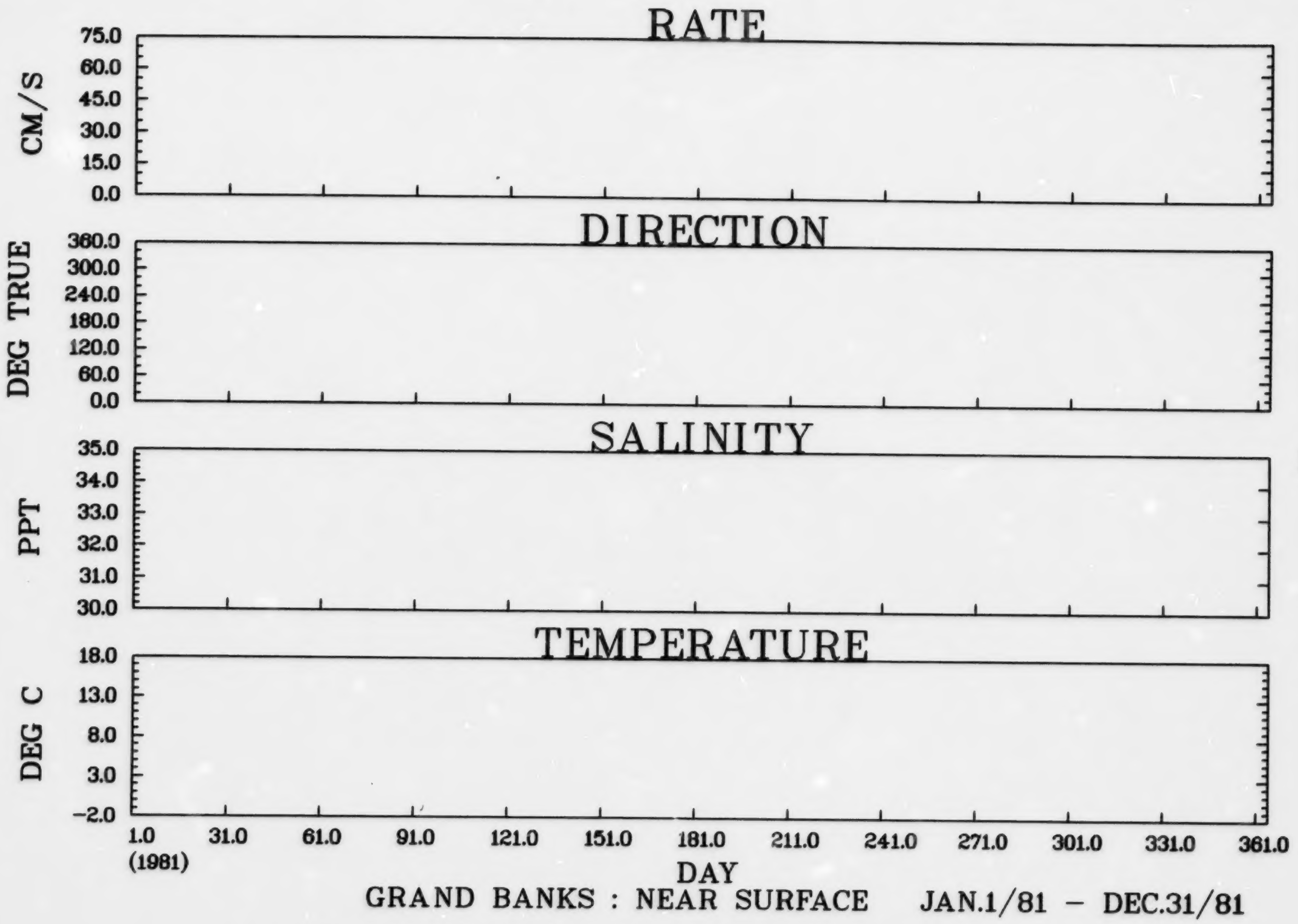


Figure 17(b). No near surface currents available for the slope area for 1981.

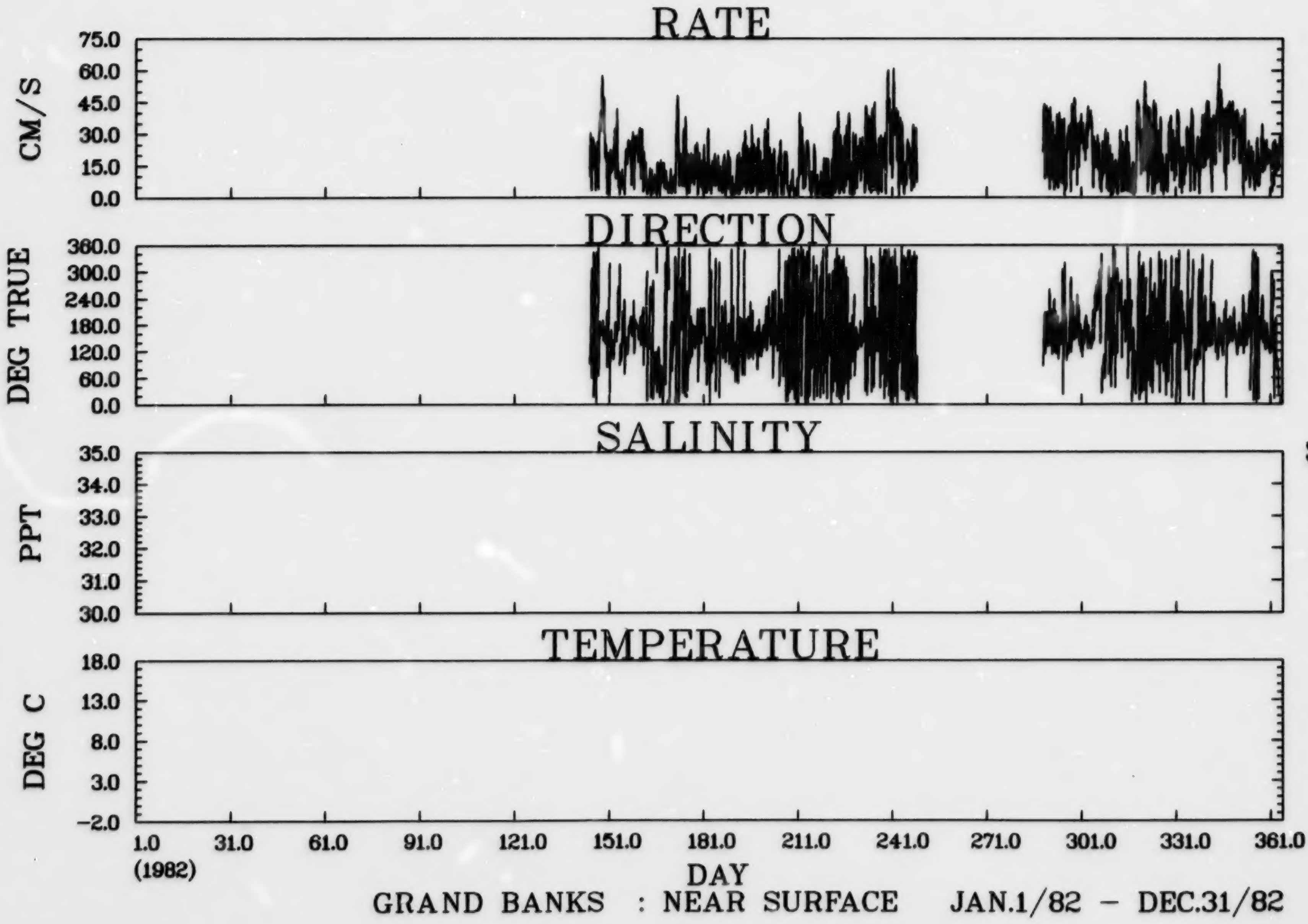


Figure 17(c). Near surface currents for the slope area for 1982.

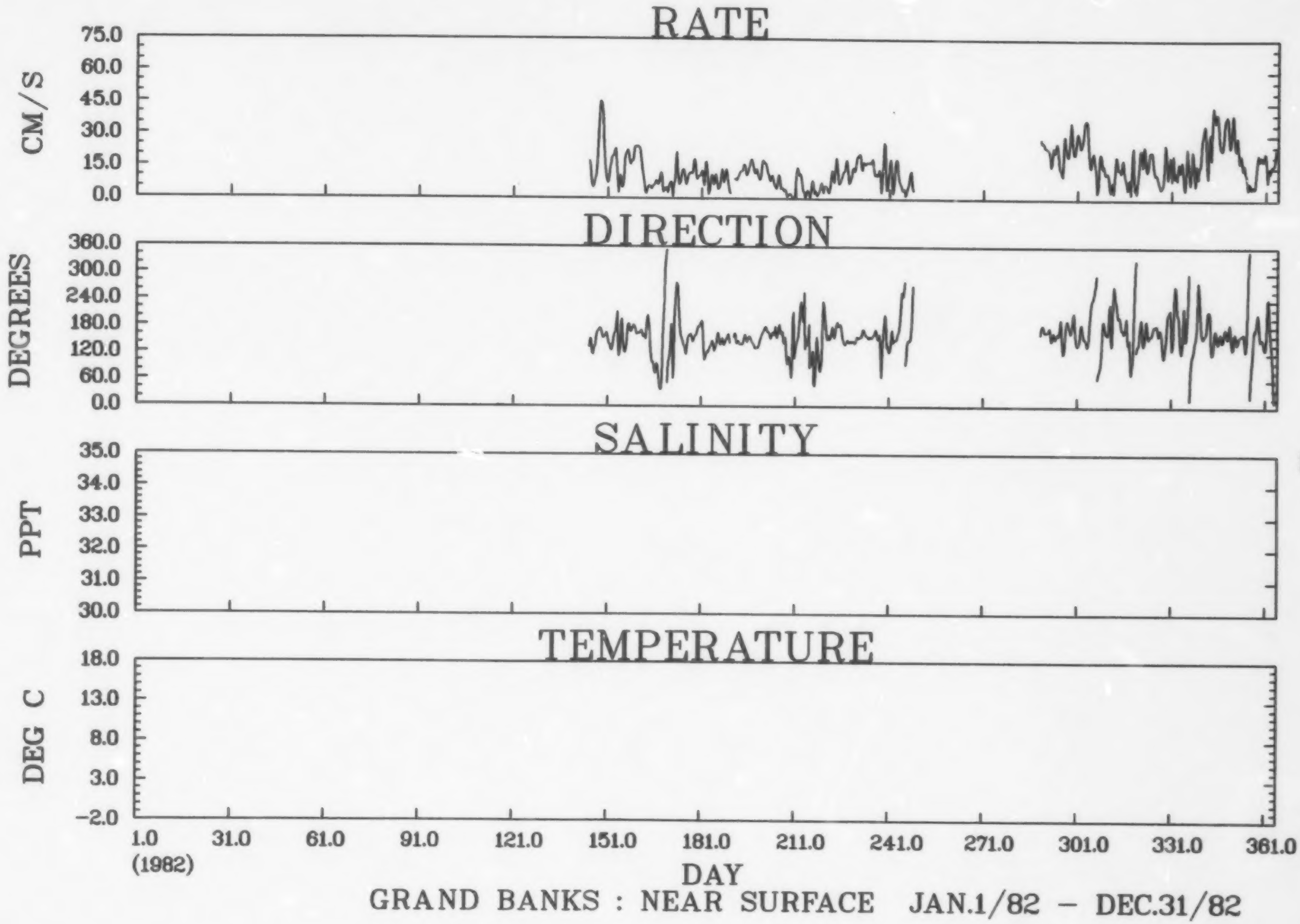


Figure 17(c'). Filtered time series of data shown in Figure 17(c).

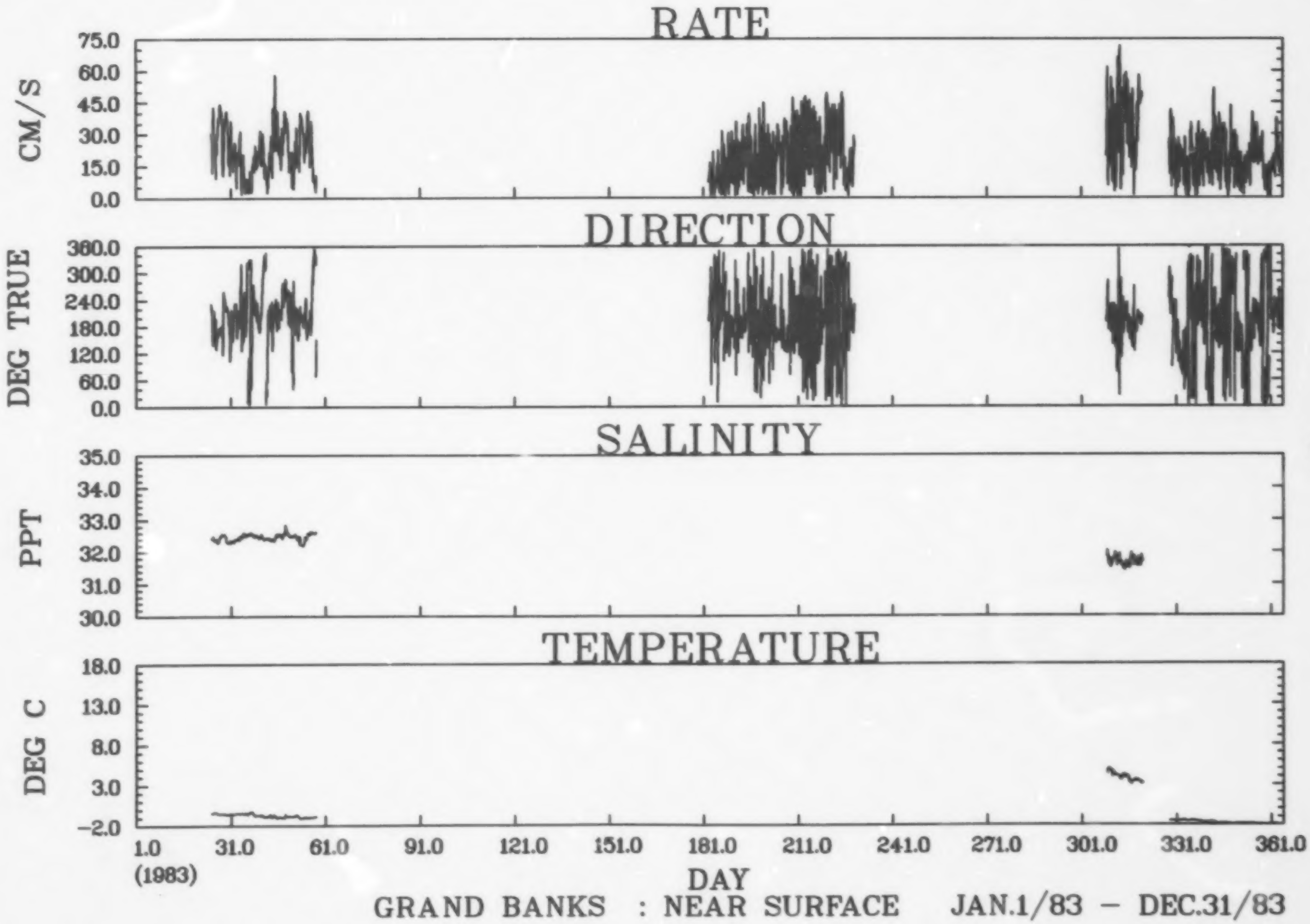


Figure 17(d). Near surface currents for the slope area for 1983.

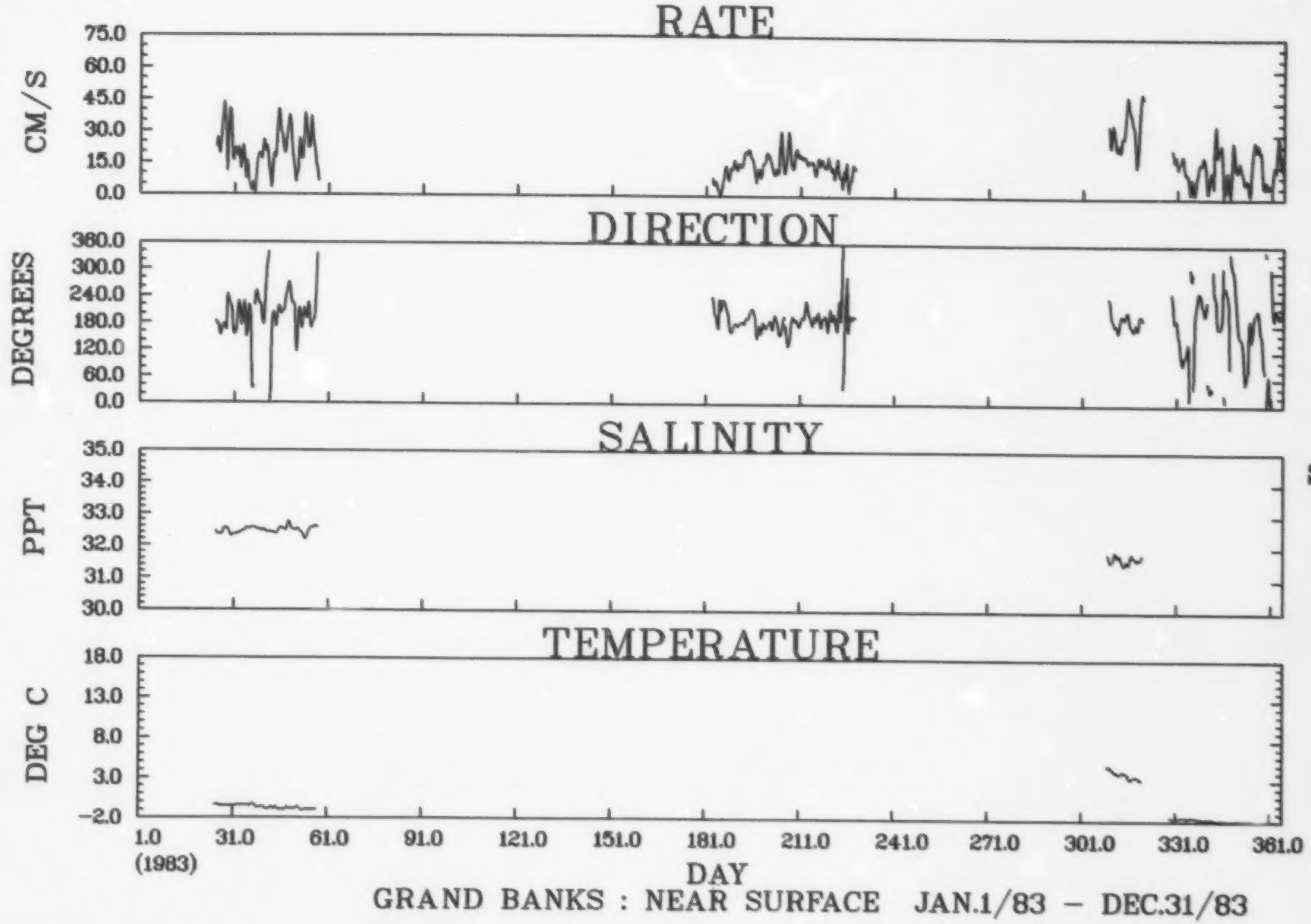


Figure 17(d'). Filtered time series of data shown in Figure 17(d).

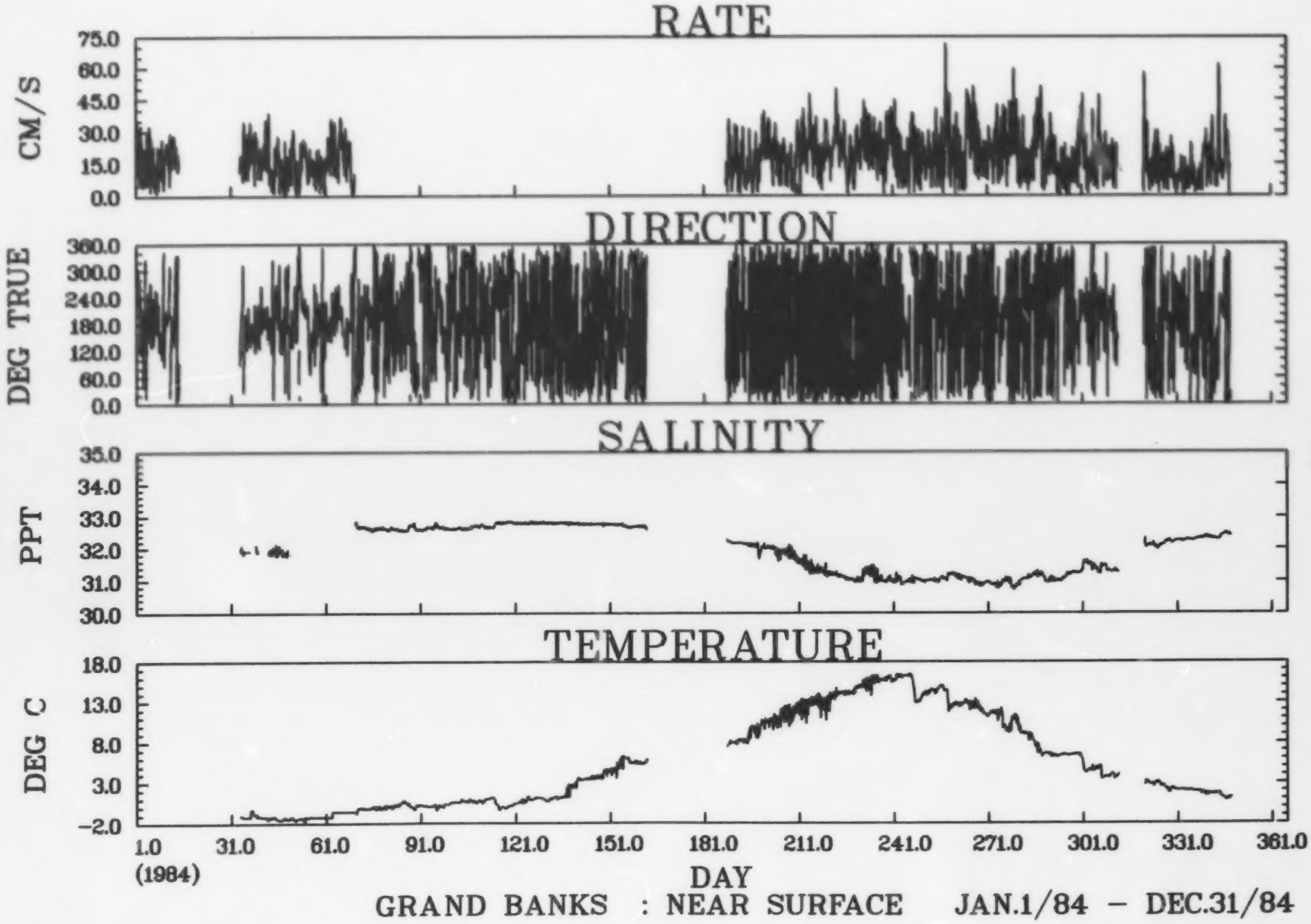


Figure 17(e). Near surface currents for the slope area for 1984.

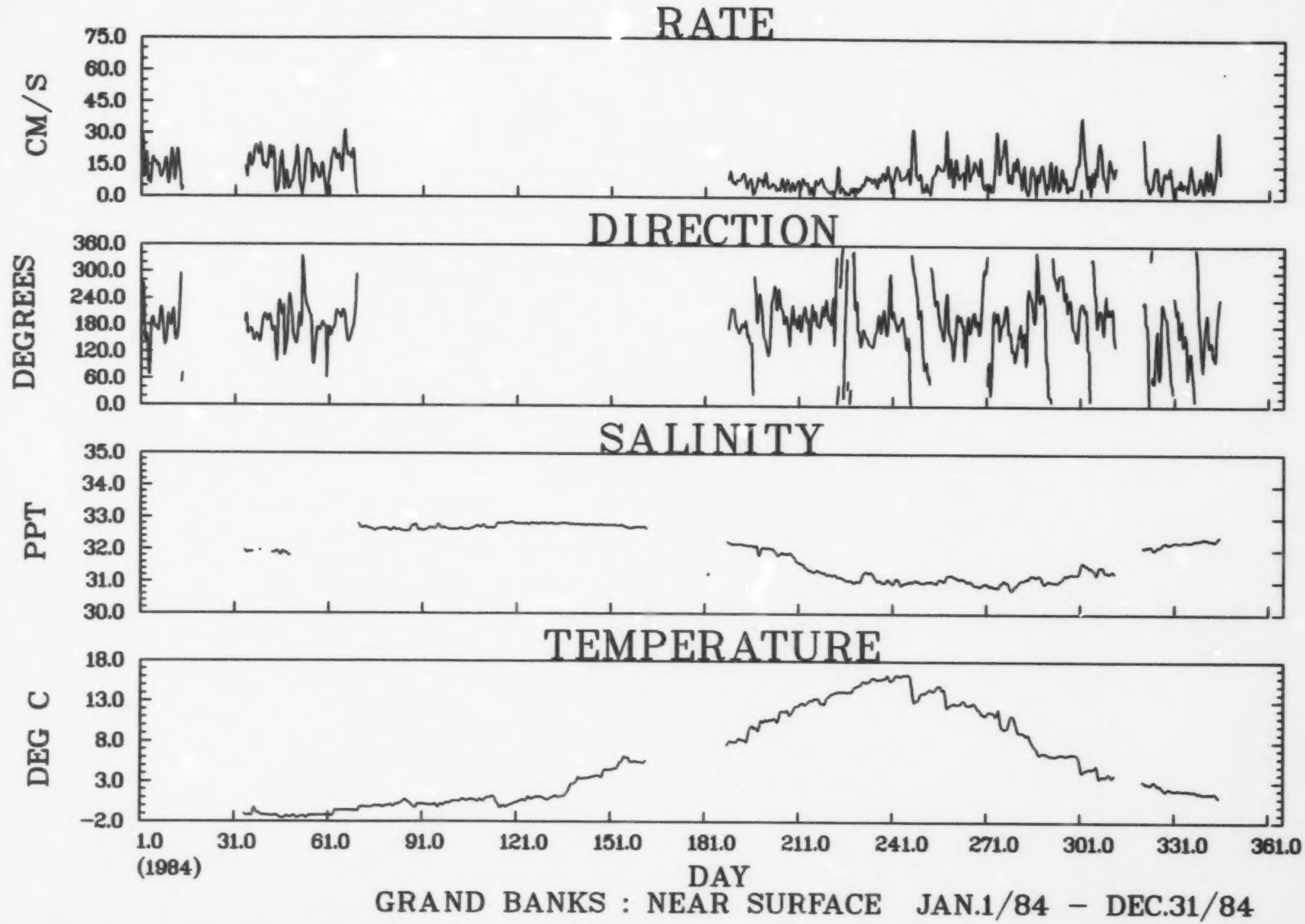


Figure 17(e'). Filtered time series of data shown in Figure 17(e).

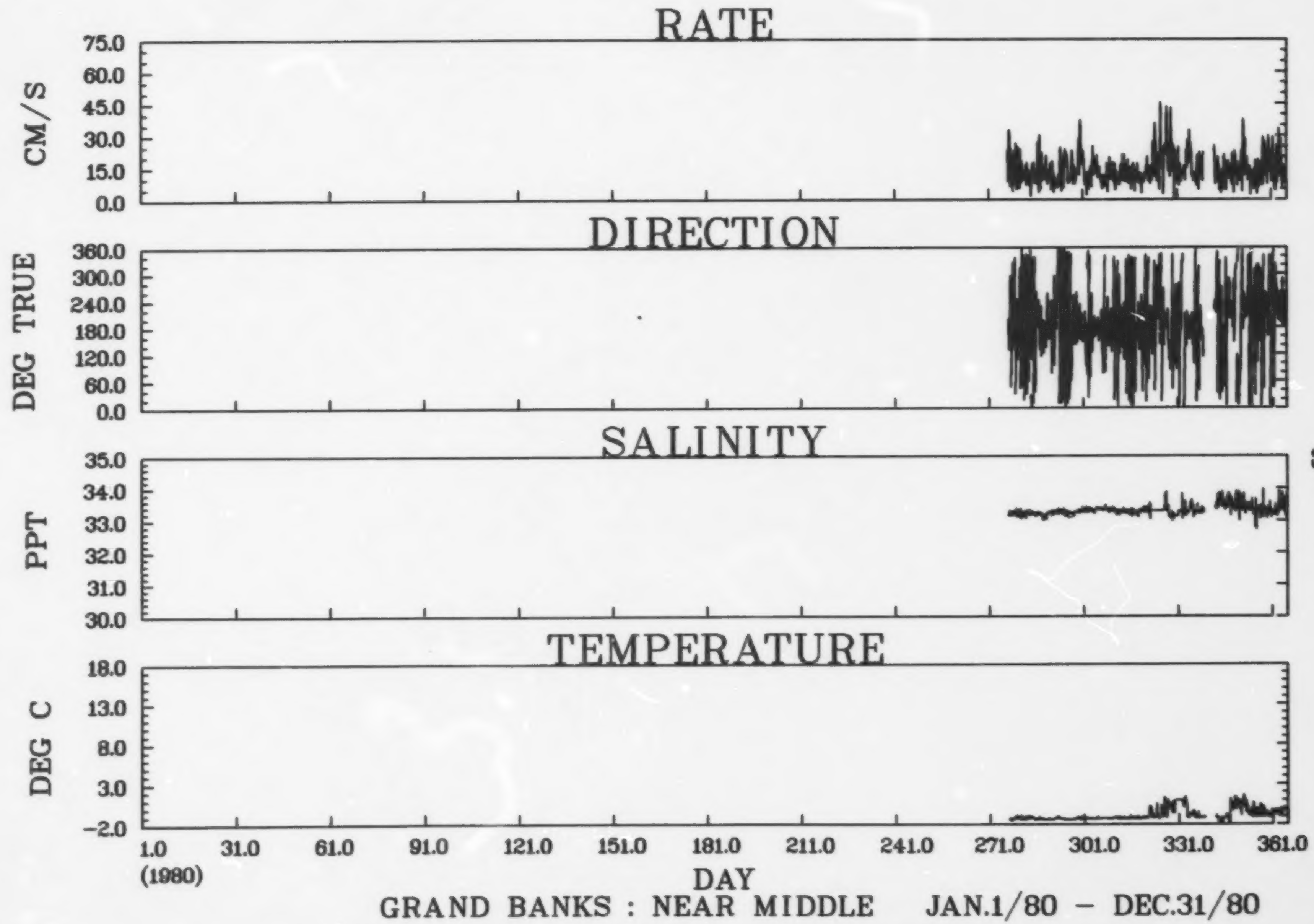


Figure 18(a). Mid-depth currents for the slope region of the Grand Banks near Hibernia for 1980 formed in the same manner as the surface currents.

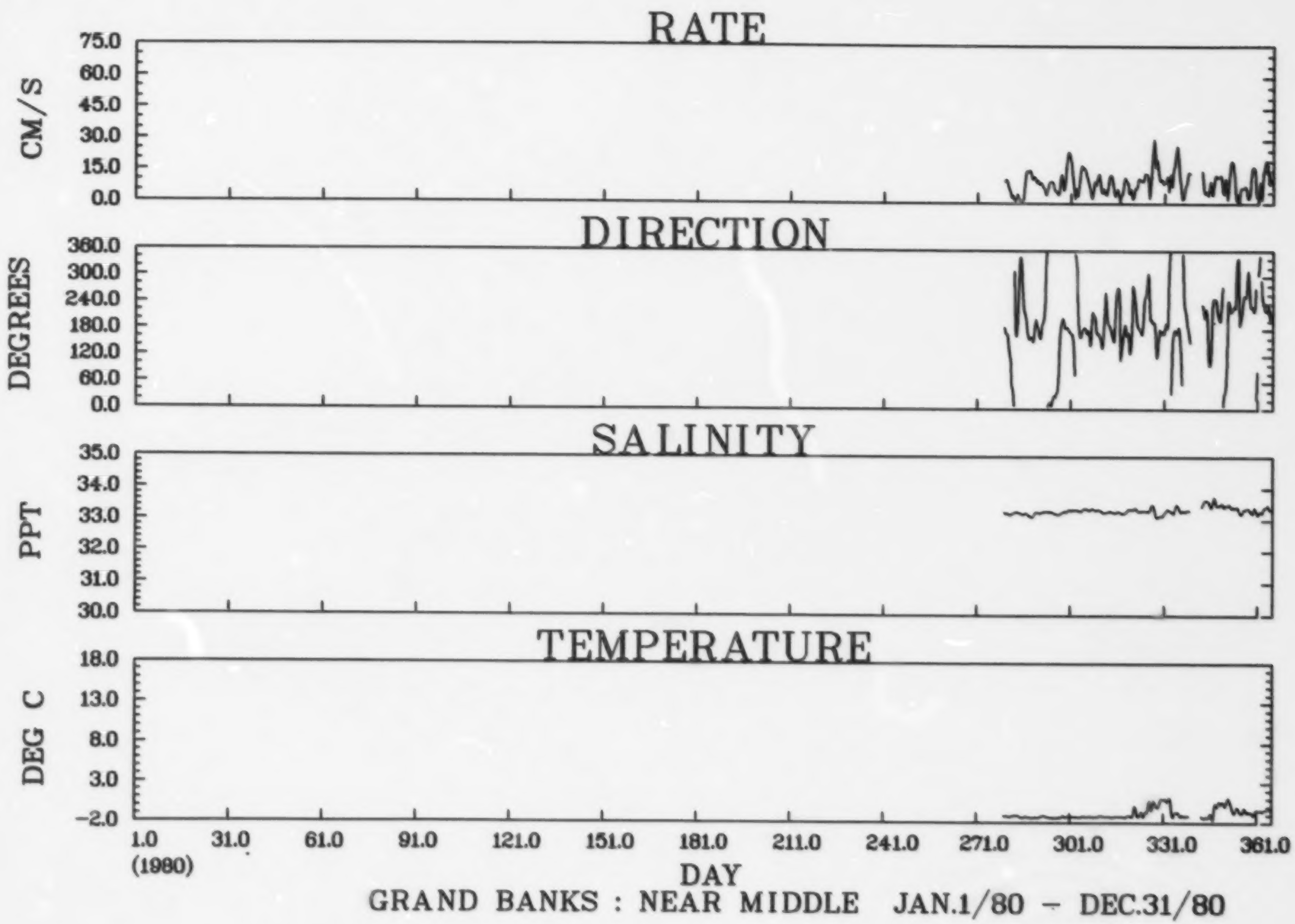


Figure 18(a'). Filtered time series of data shown in Fig. 18(a).

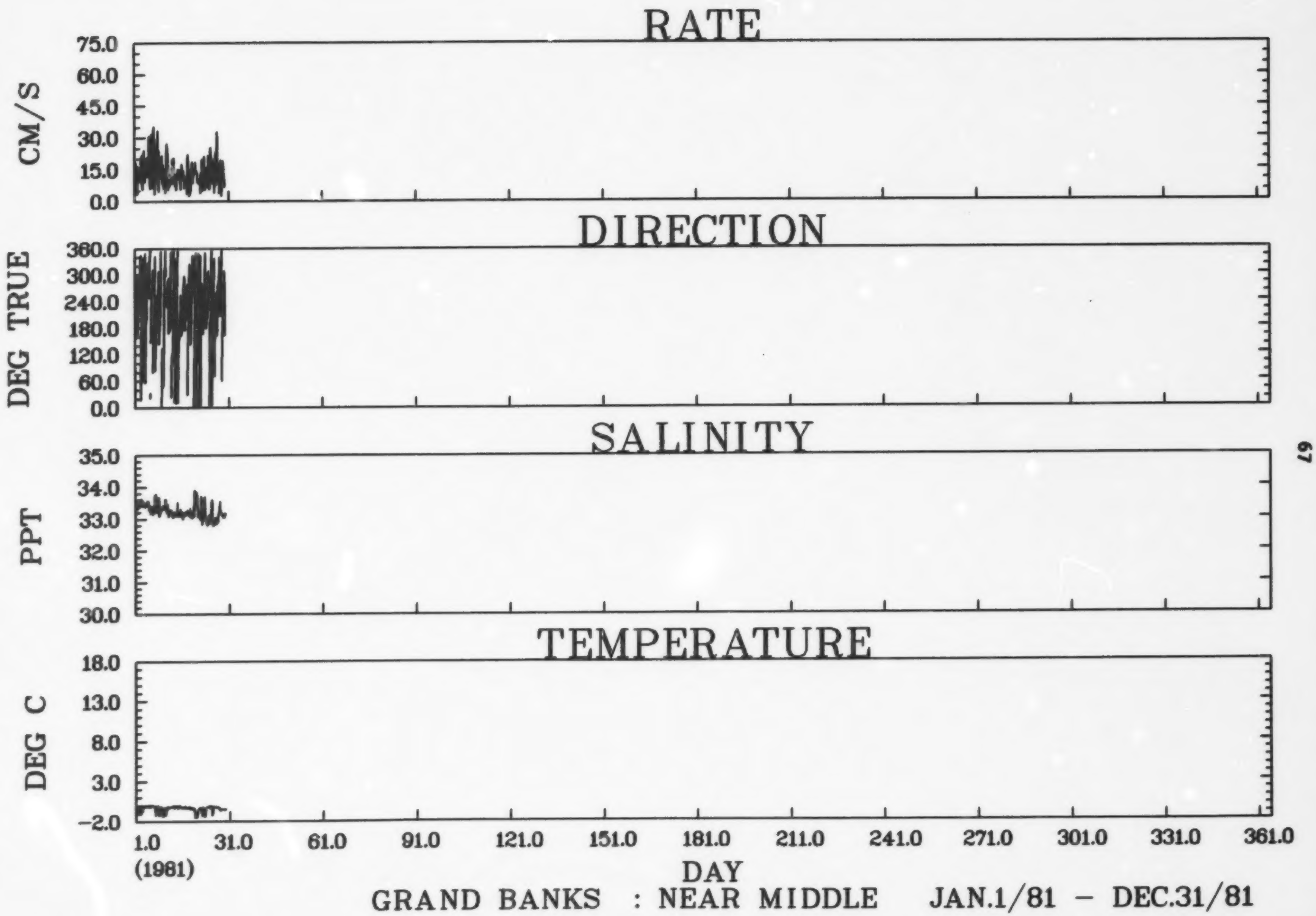


Figure 18(b). Mid-depth currents for the slope area for 1981.

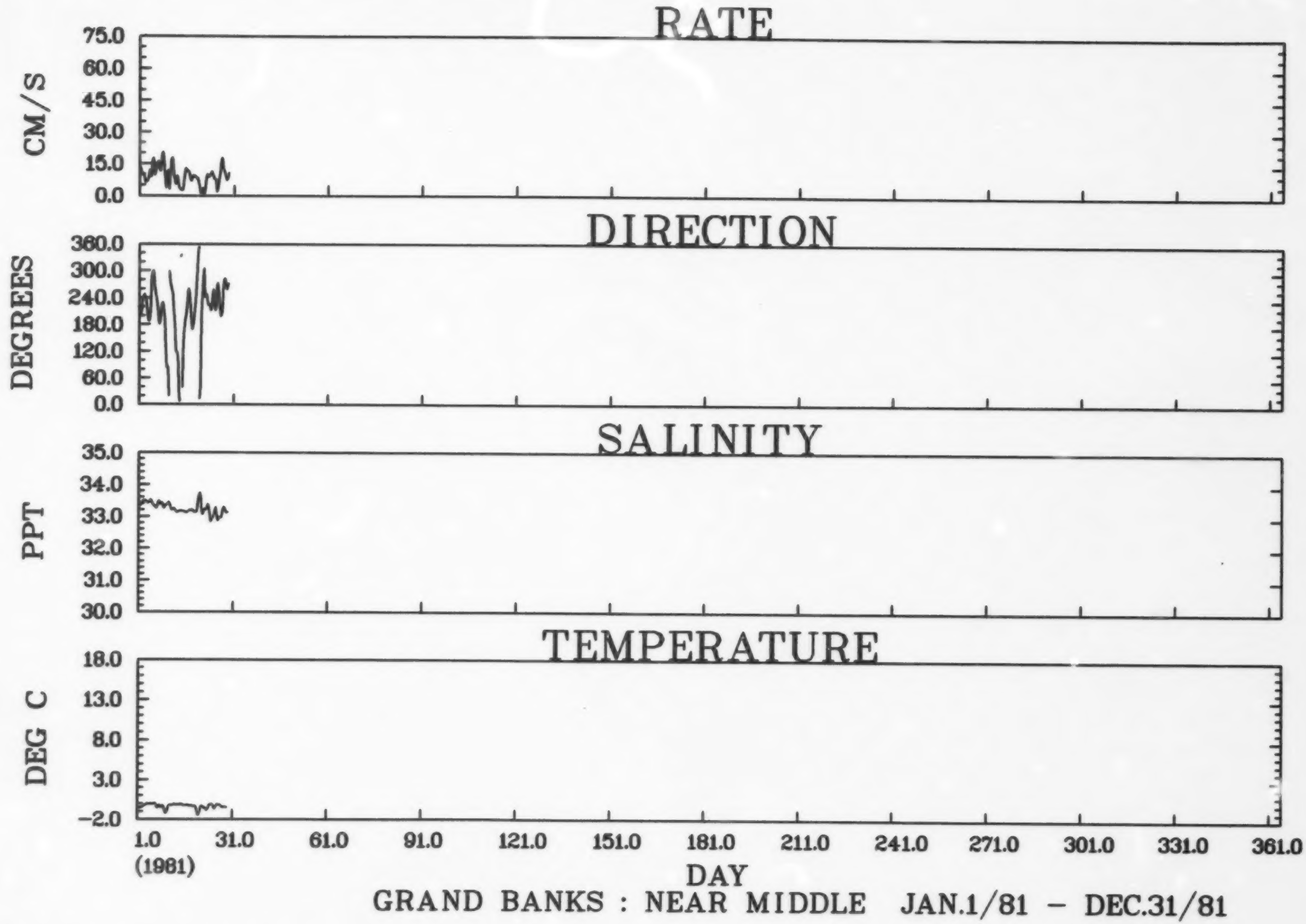


Figure 18(b'). Filtered time series of data shown in Fig. 18(b).

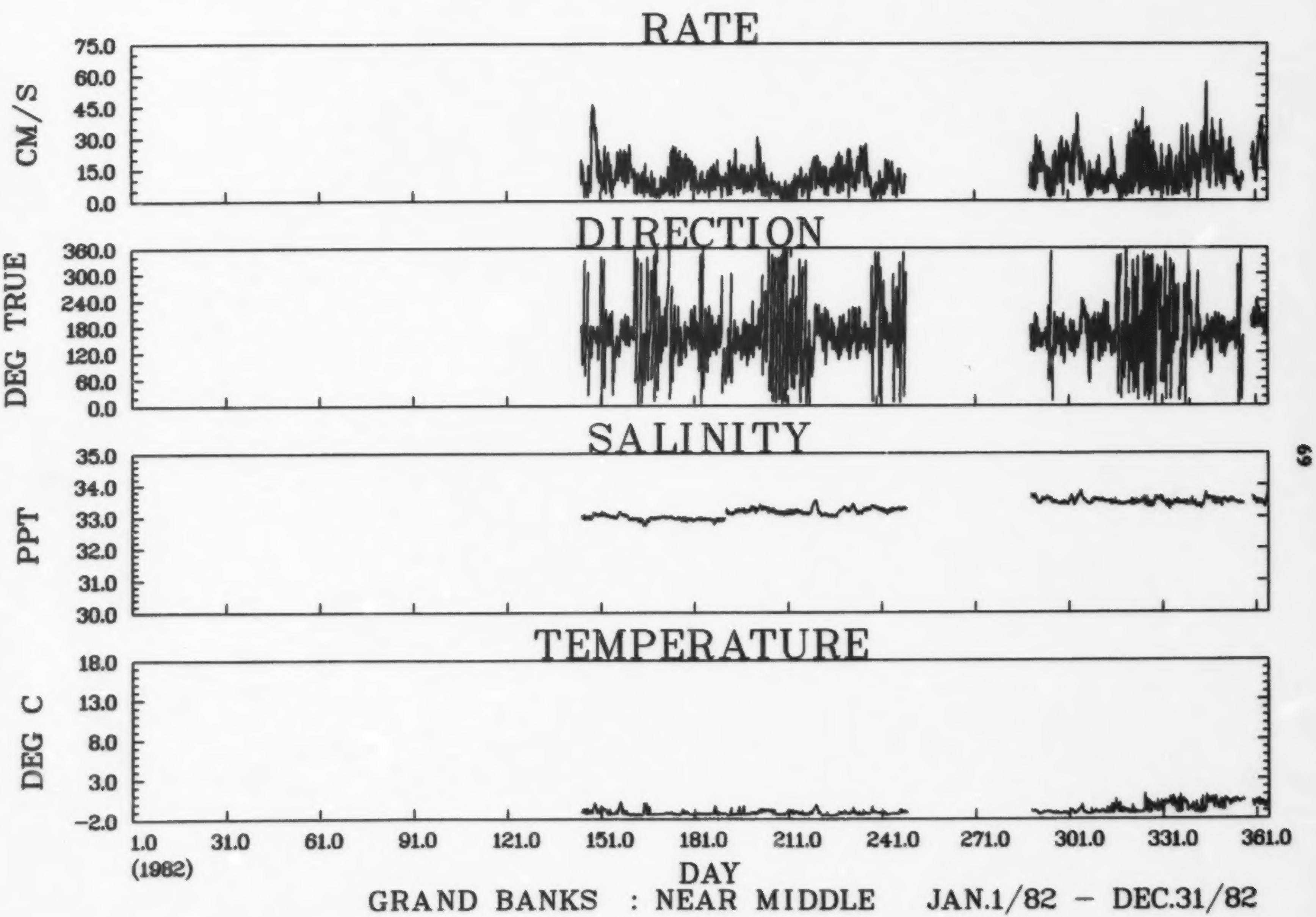


Figure 18(c). Mid-depth currents for the slope area for 1982.

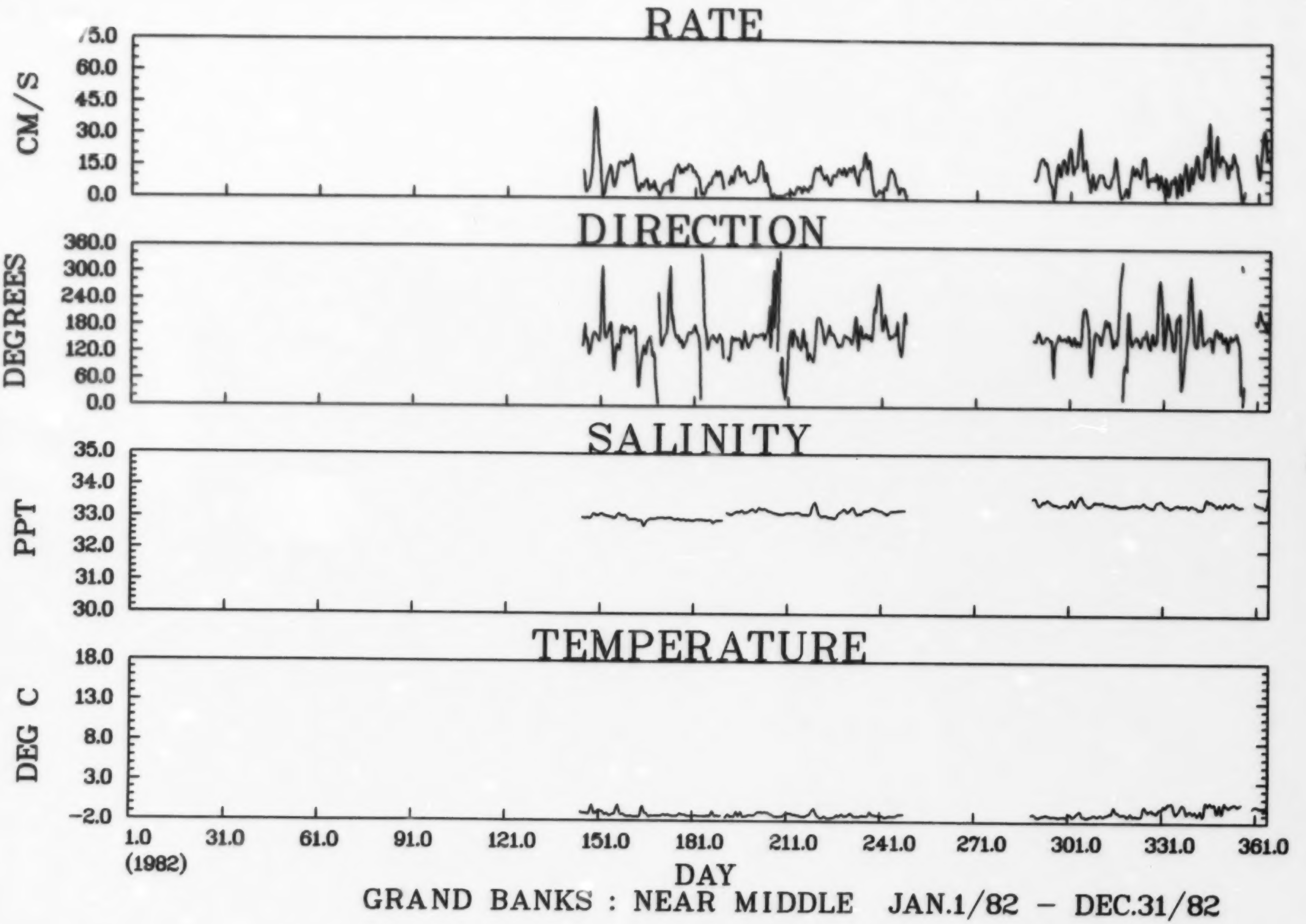


Figure 18(c'). Filtered time series of data shown in Fig. 18(c).

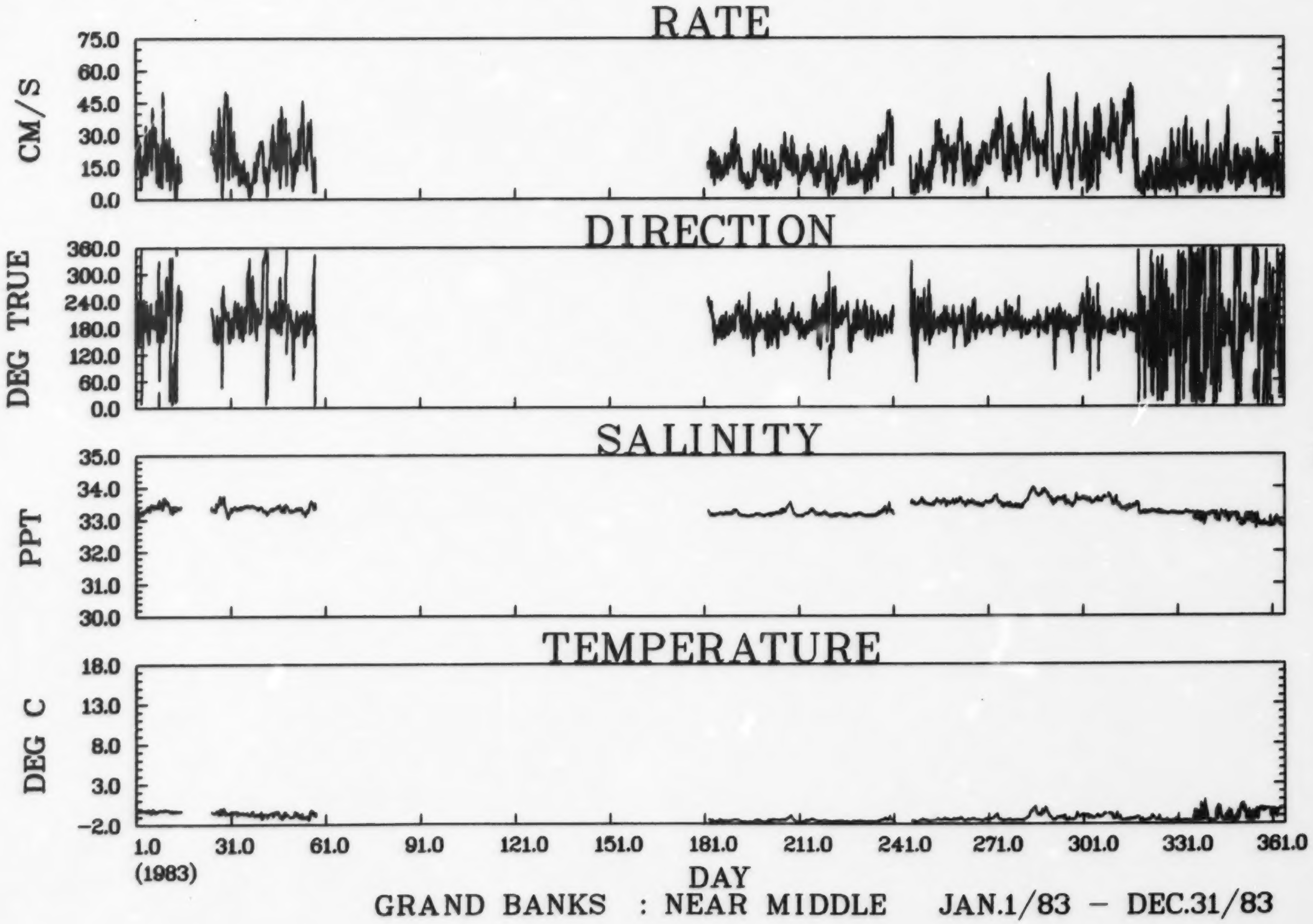


Figure 18(d). Mid-depth currents for the slope area for 1983.

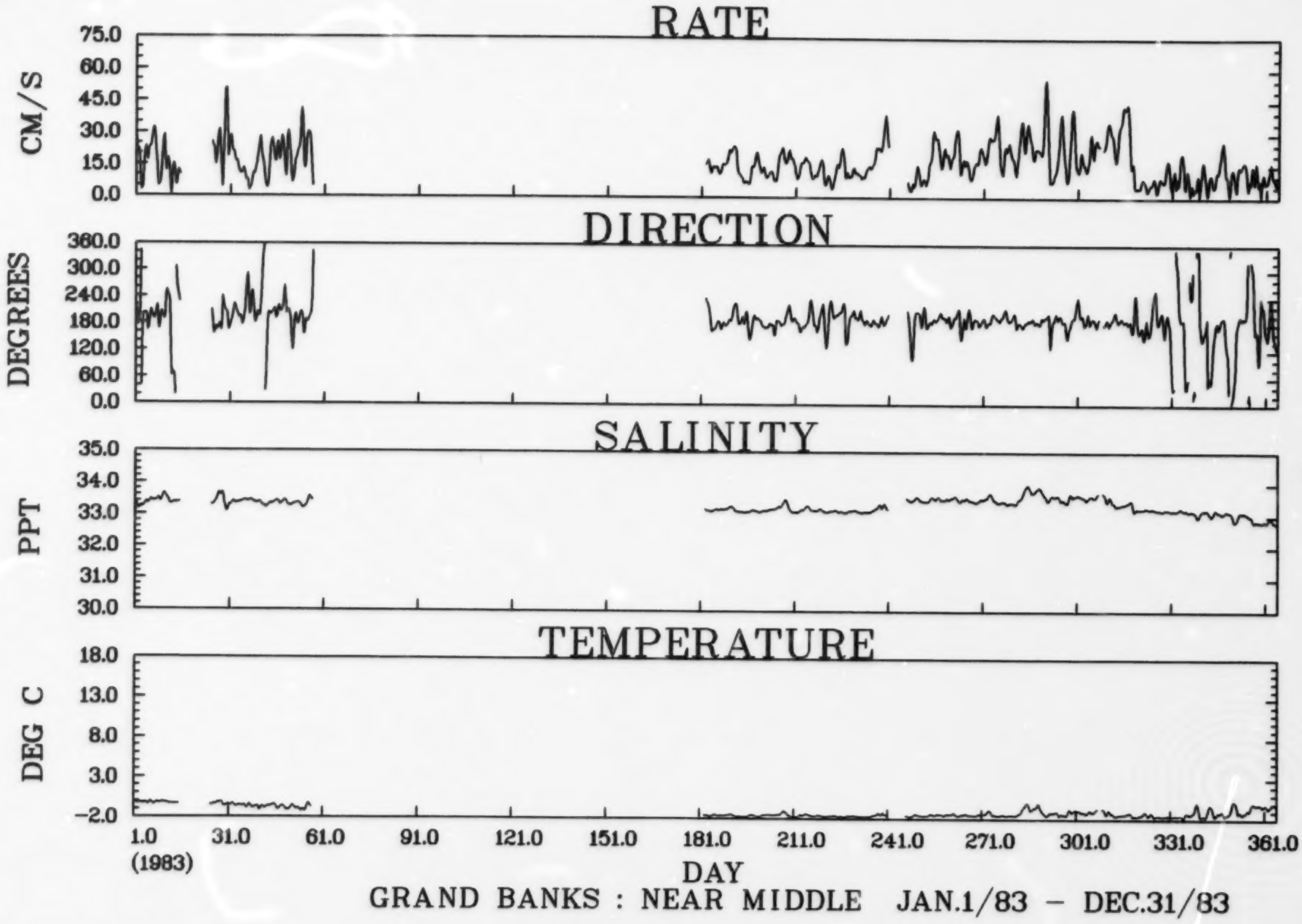


Figure 18(d'). Filtered time series of data shown in Fig. 18(d).

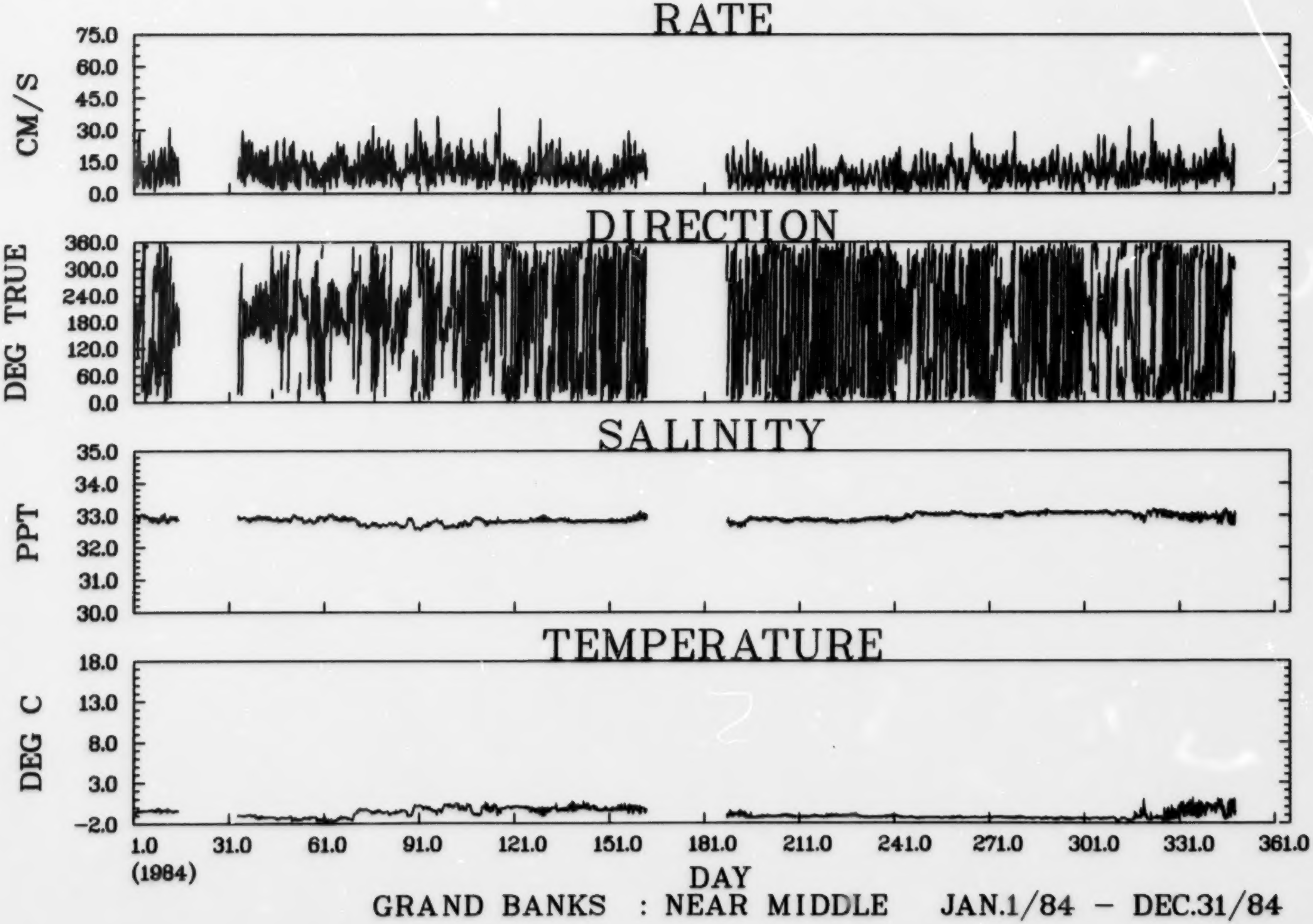


Figure 18(e). Mid-depth currents for the slope area for 1984.

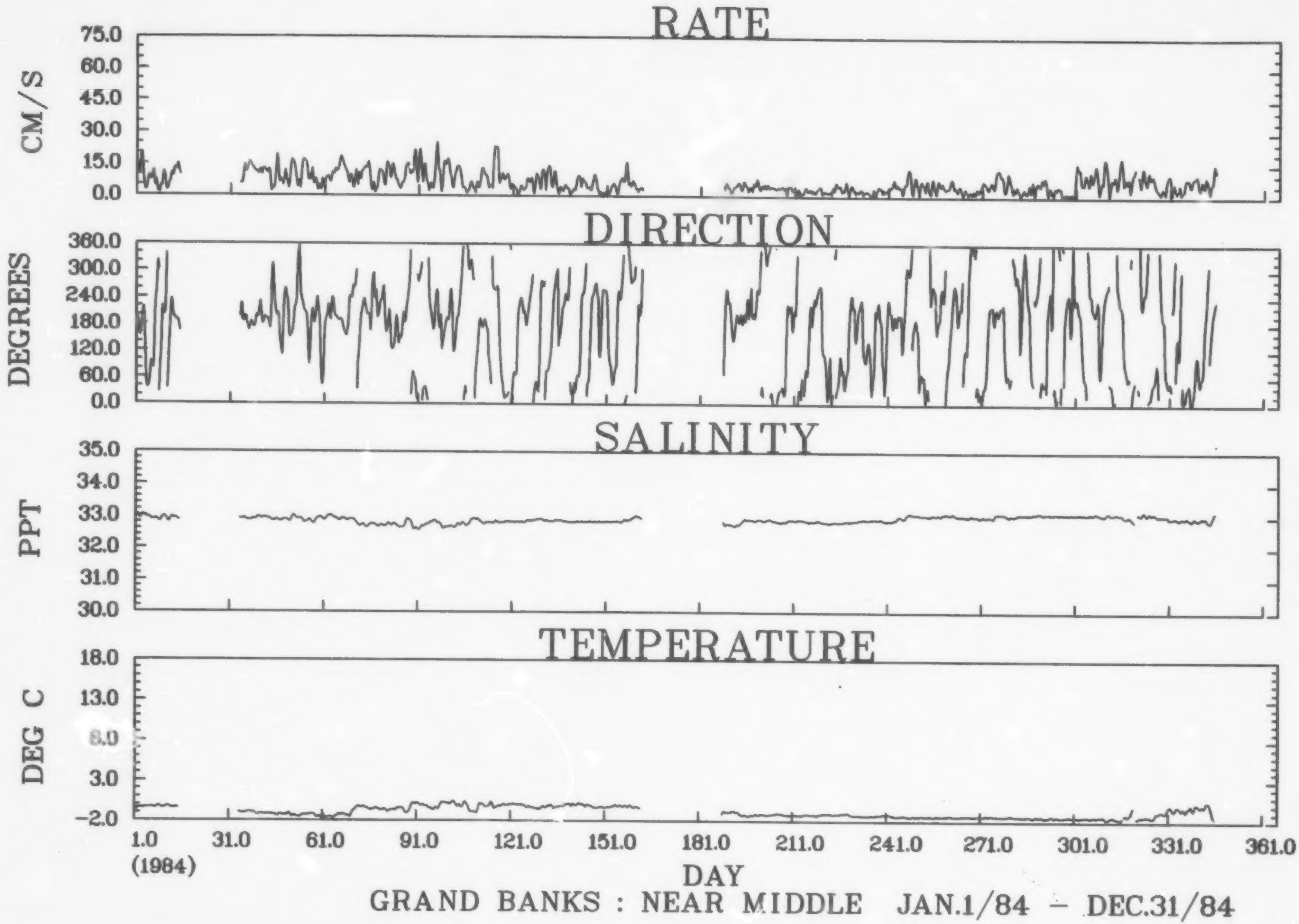


Figure 18(e'). Filtered time series of data shown in Fig. 18(e).

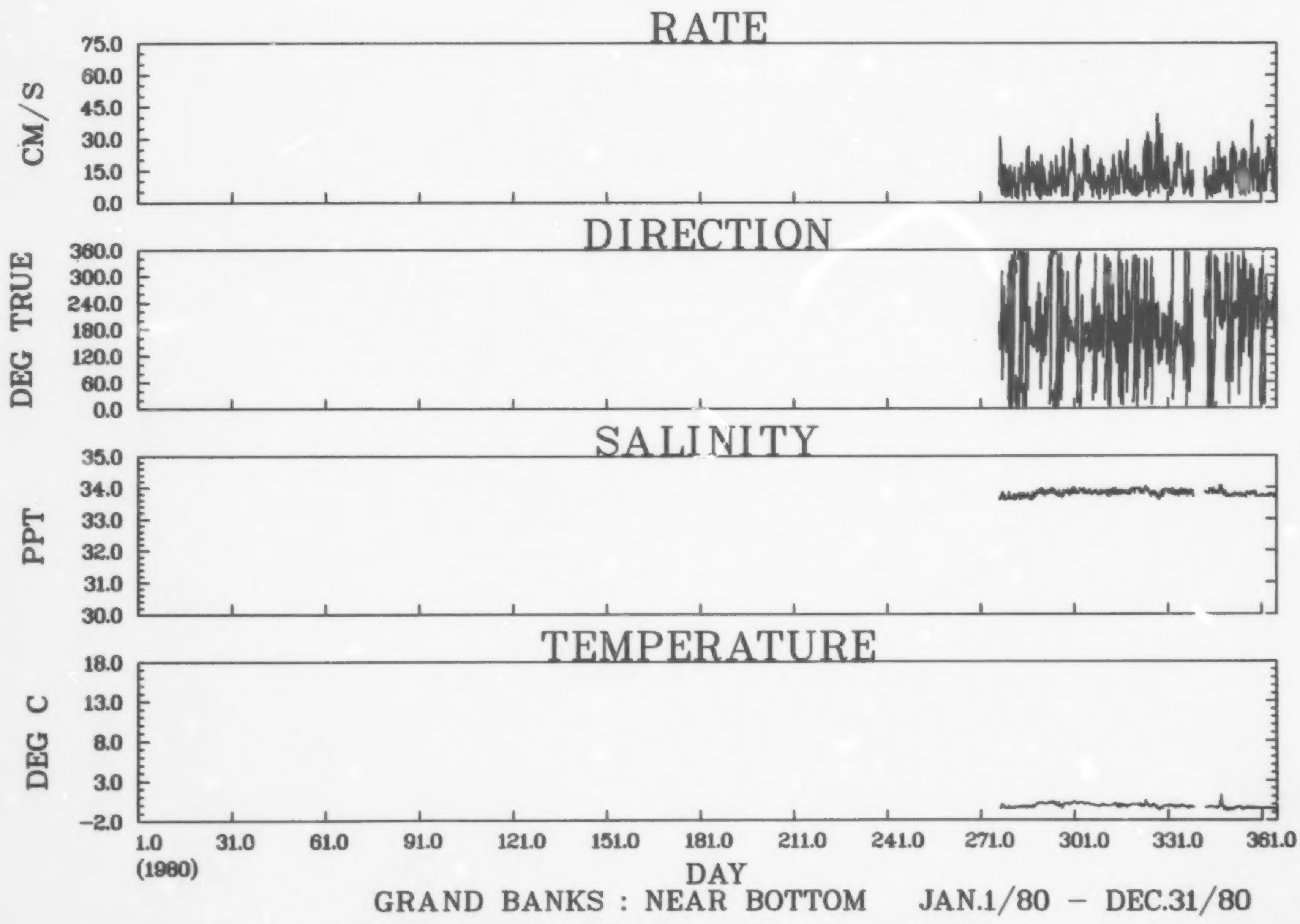


Figure 19(a). Near bottom (>50 m) currents for the slope region of the Grand Banks near Hibernia for 1980 formed in the same manner as the surface currents.

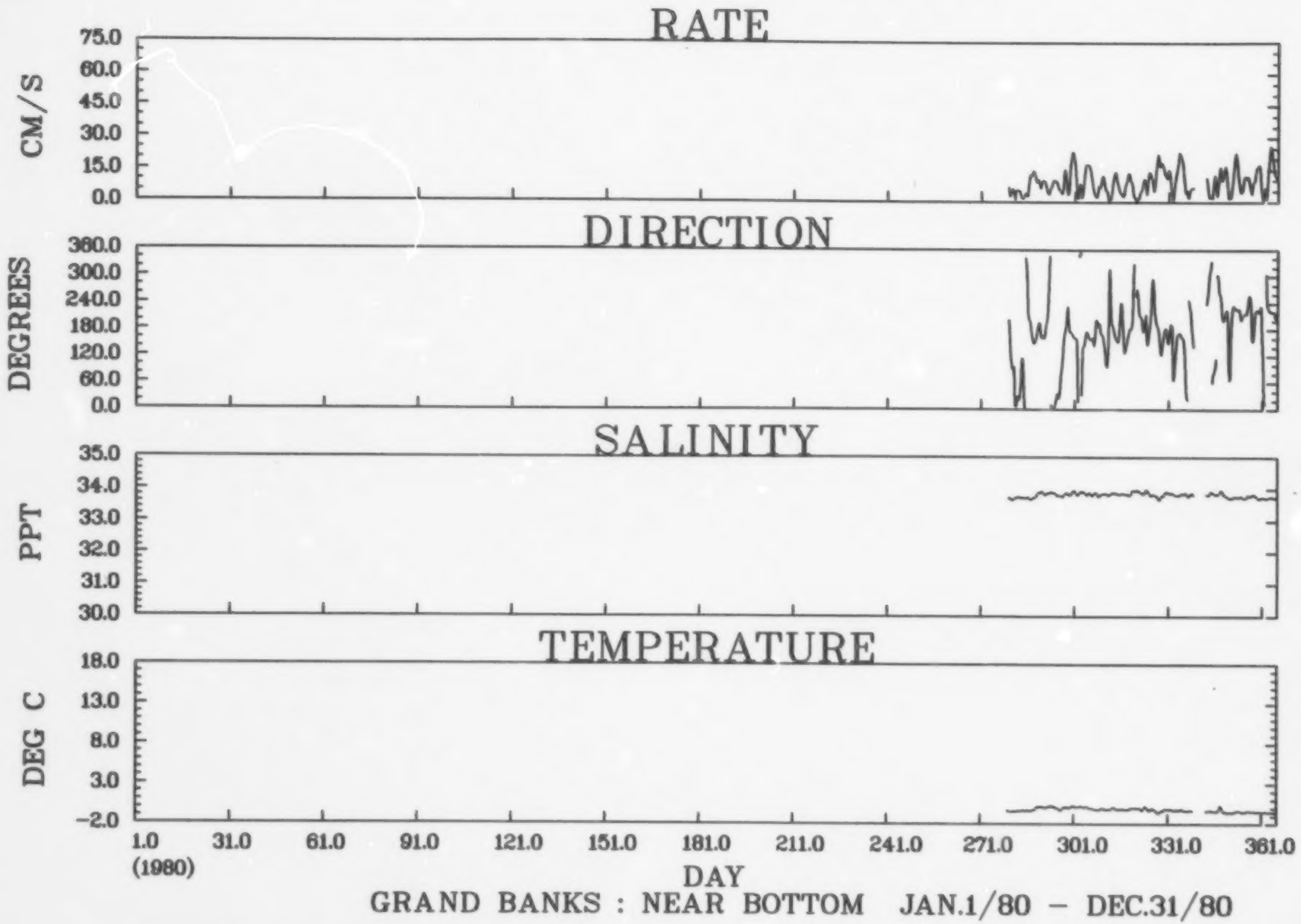


Figure 19(a'). Filtered time series of currents shown in Figure 19(a).

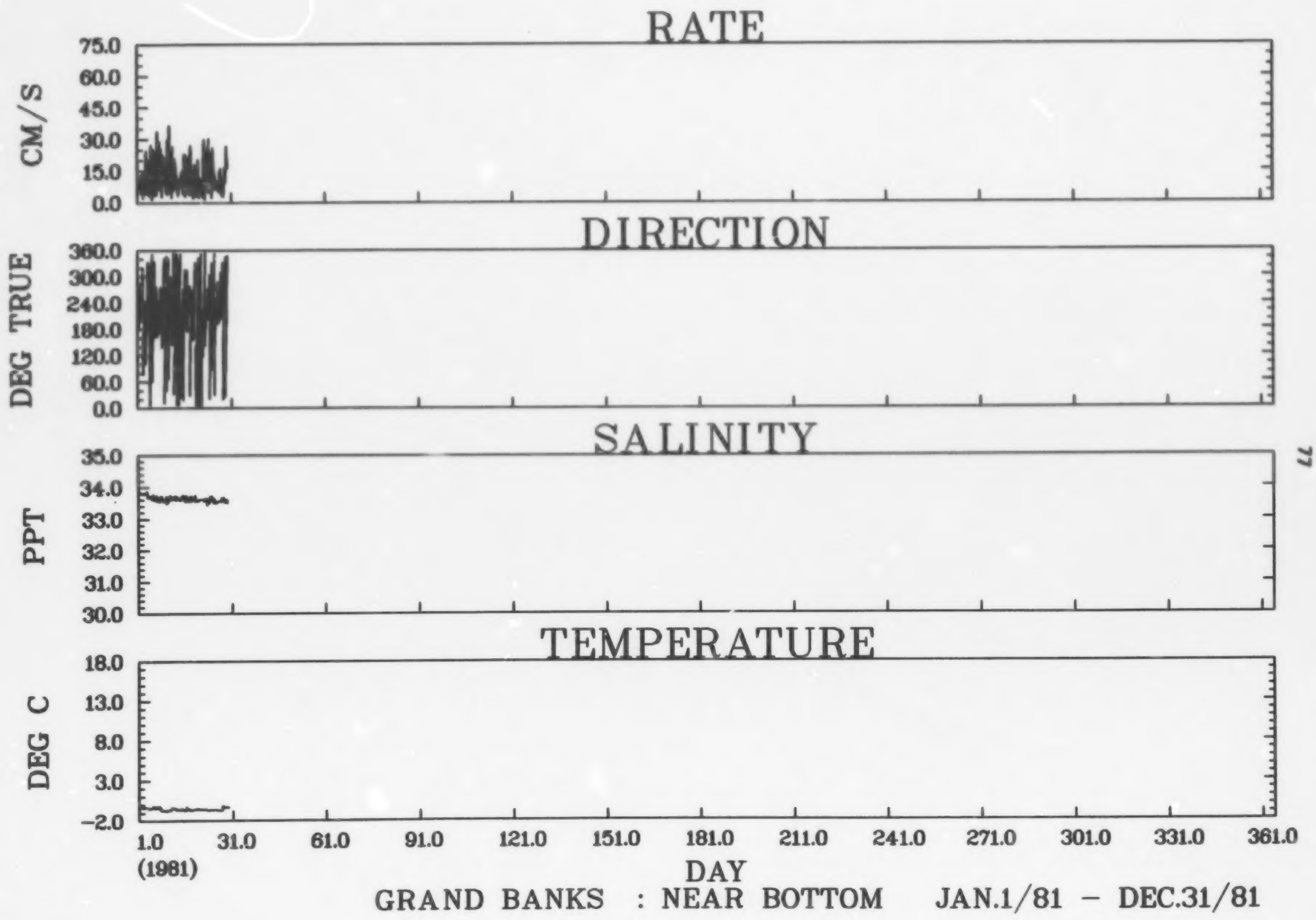


Figure 19(b). Near bottom currents for the slope area for 1981.

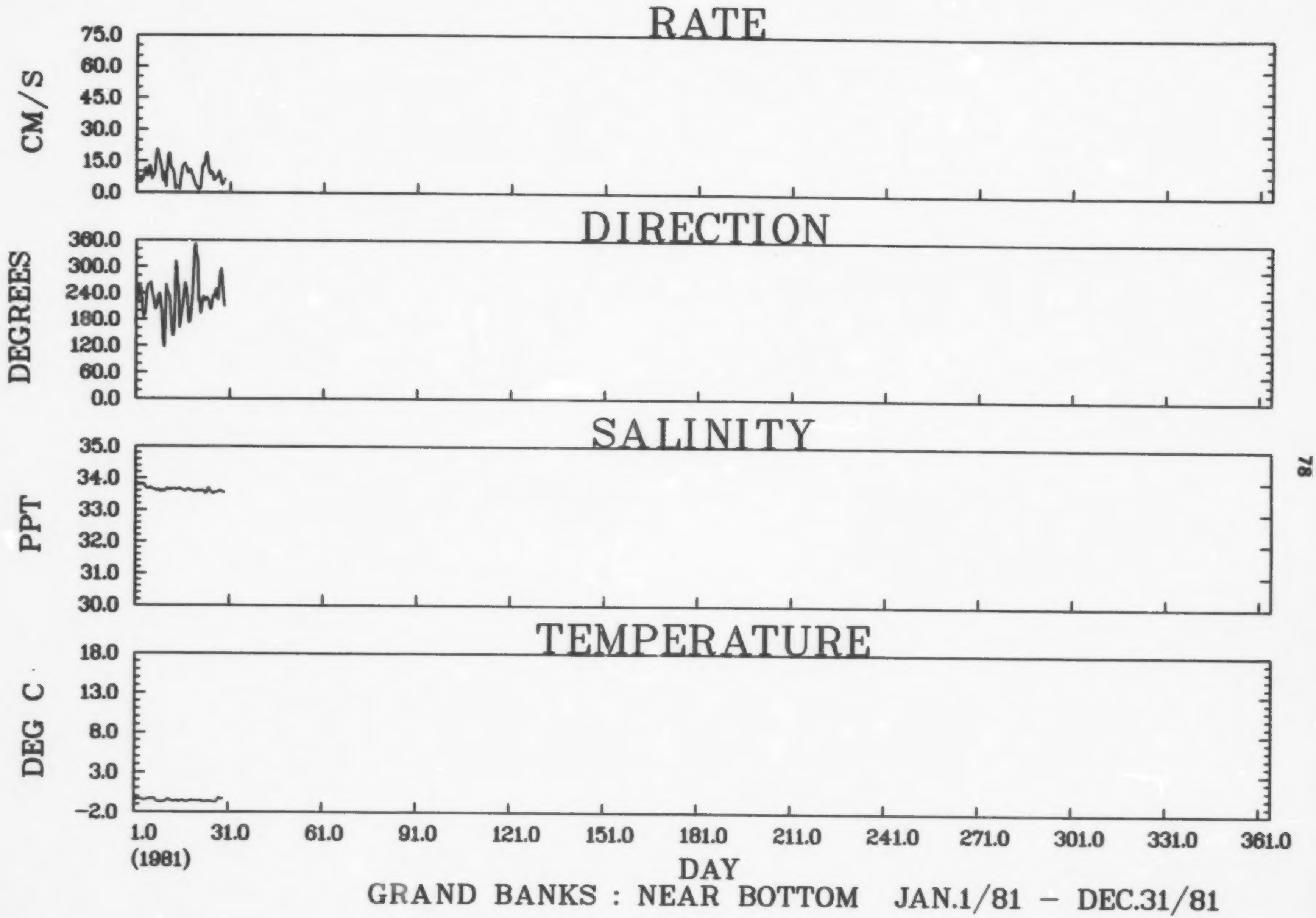


Figure 19(b'). Filtered time series of currents shown in Figure 19(b).

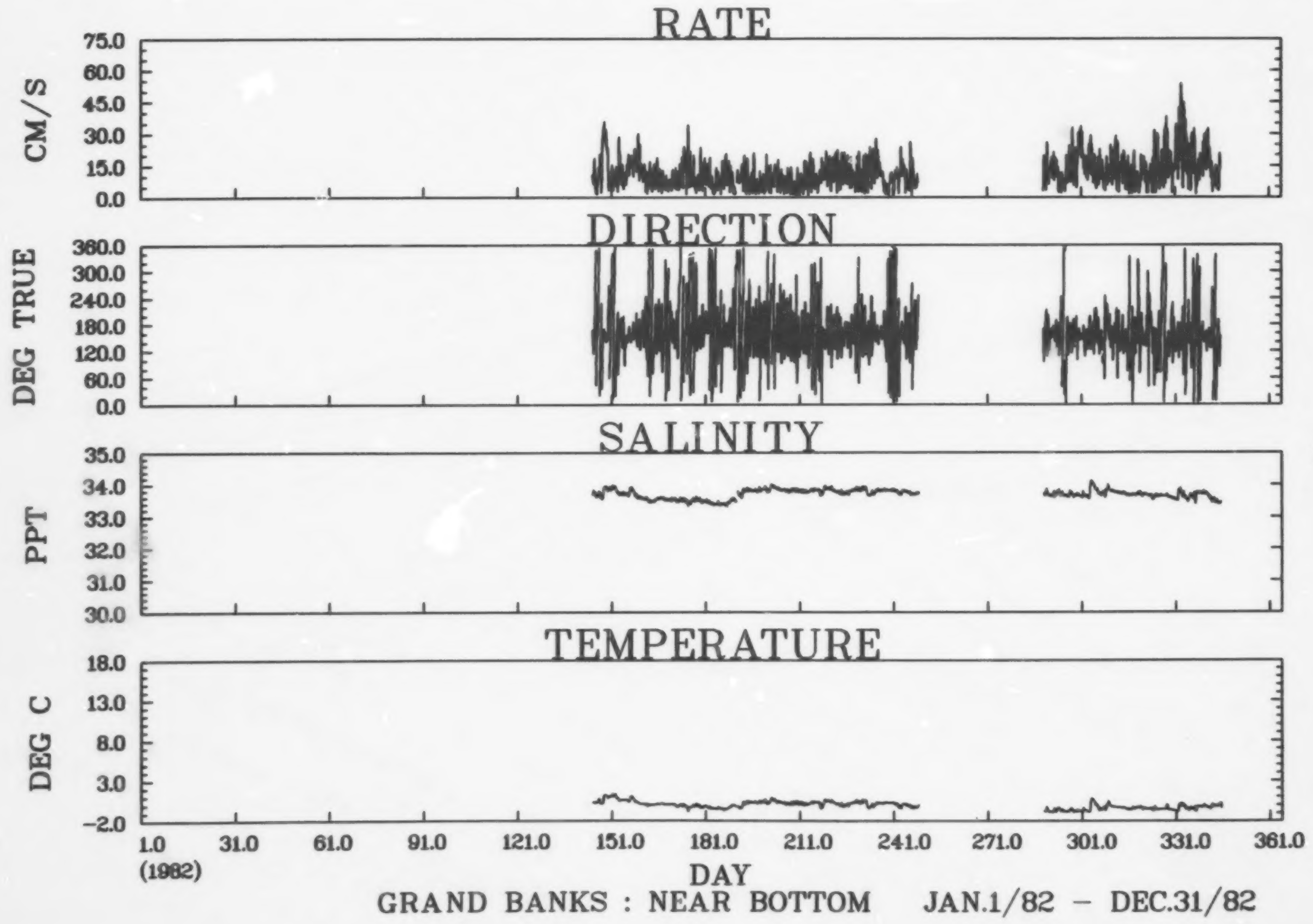


Figure 19(c). Near bottom currents for the slope area for 1982.

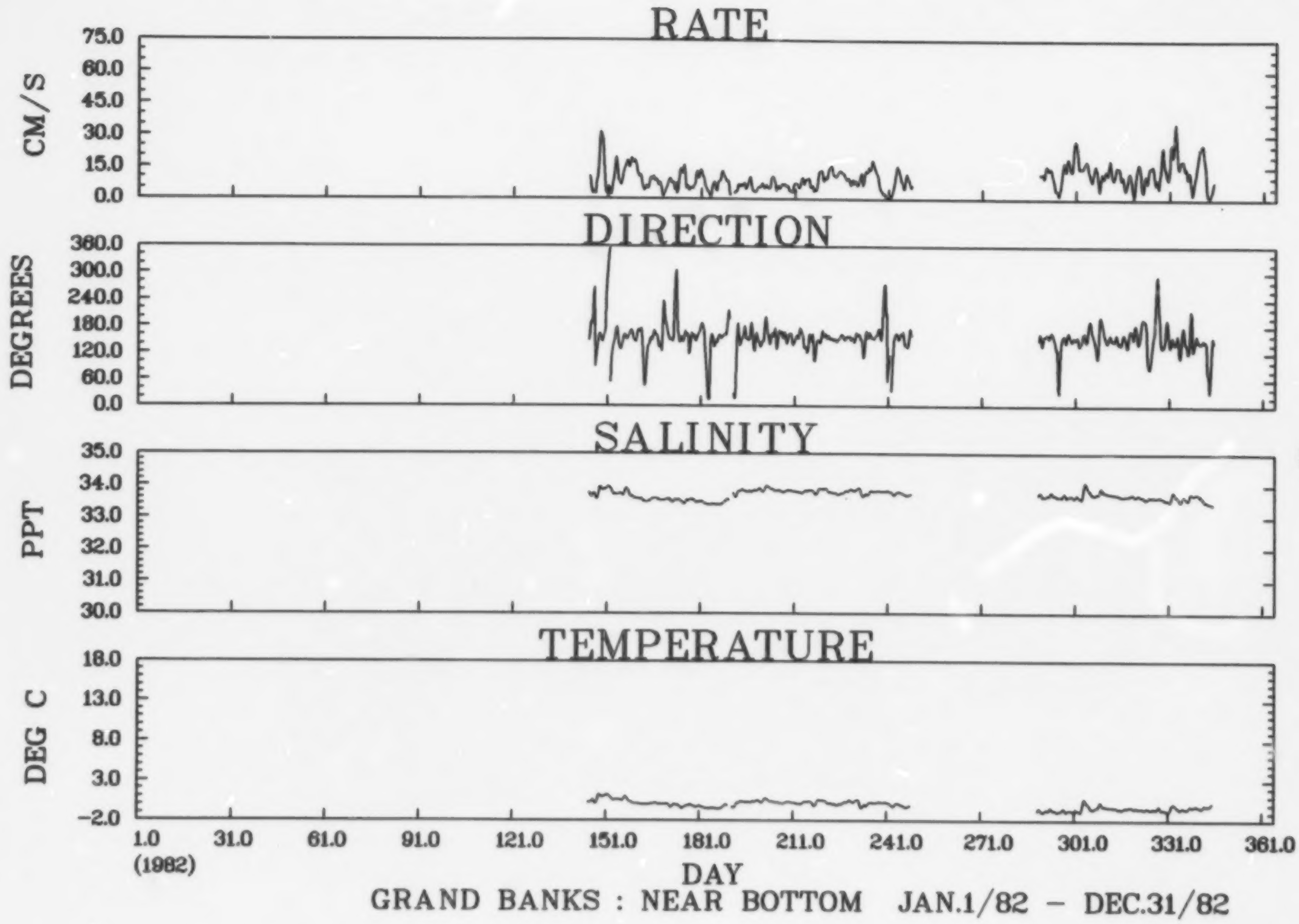


Figure 19(c'). Filtered time series of currents shown in Figure 19(c).

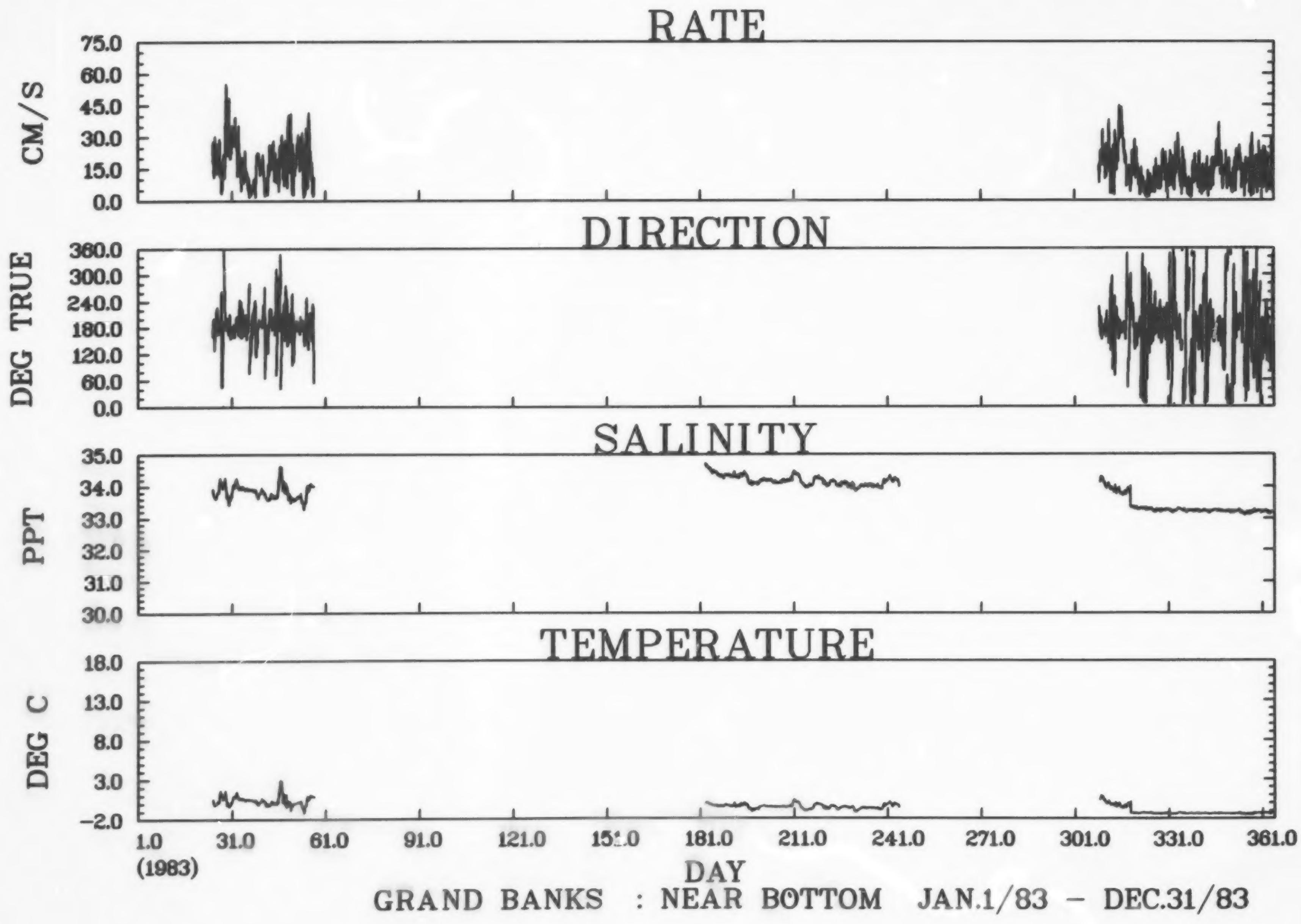


Figure 19(d). Near bottom currents for the slope area for 1983

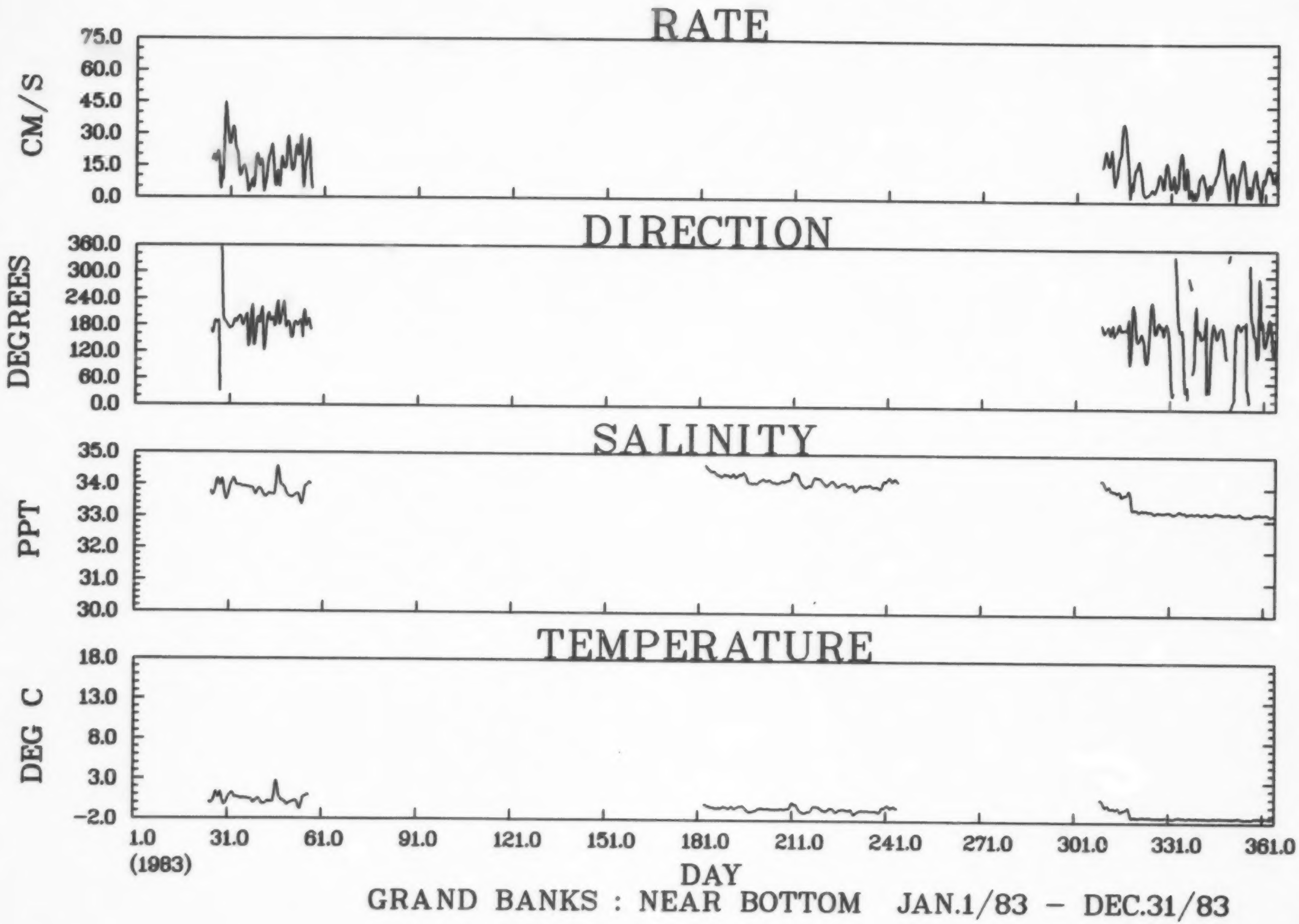


Figure 19(d'). Filtered time series of currents shown in Figure 19(d).

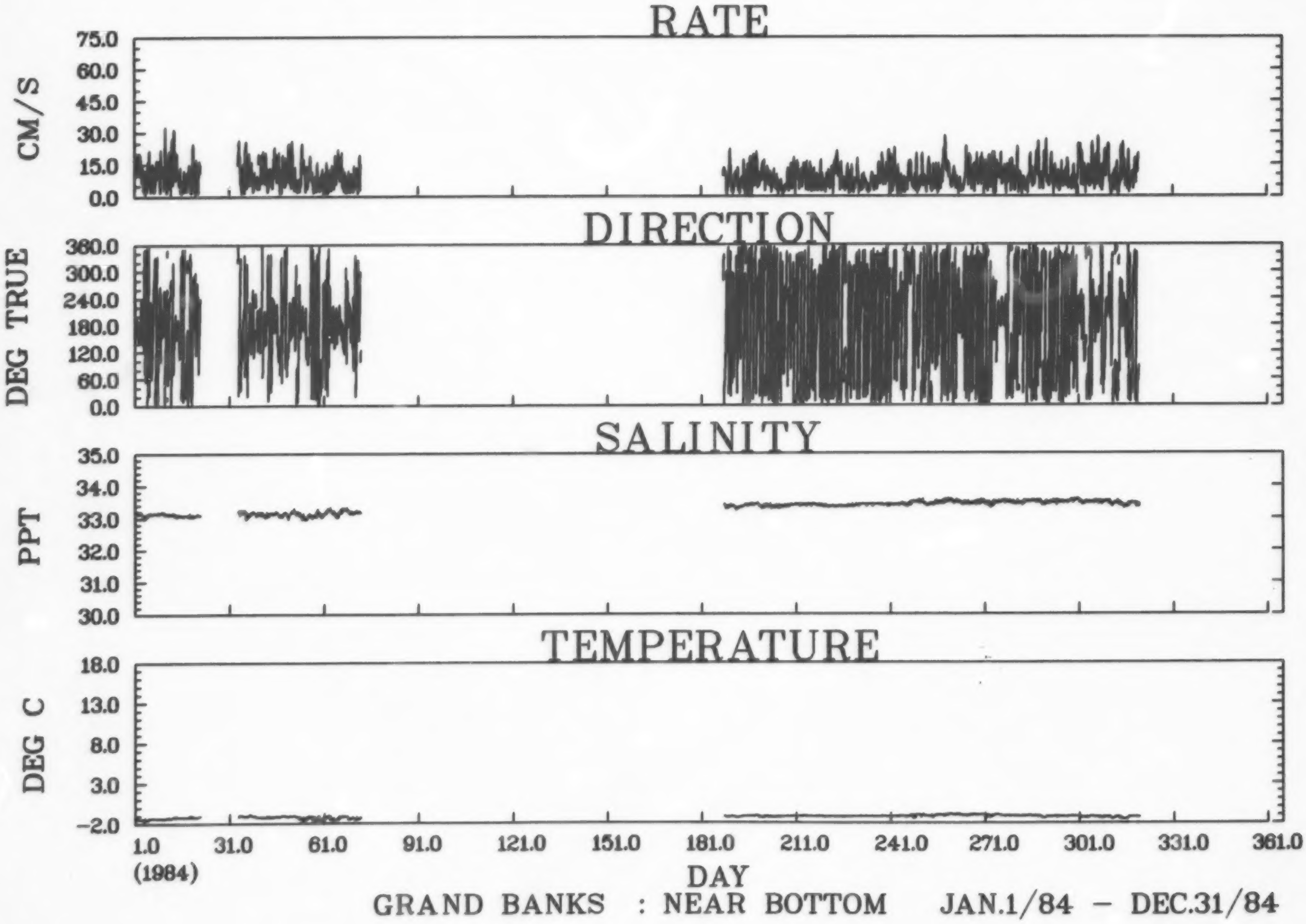


Figure 19(e). Near bottom currents for the slope area for 1984.

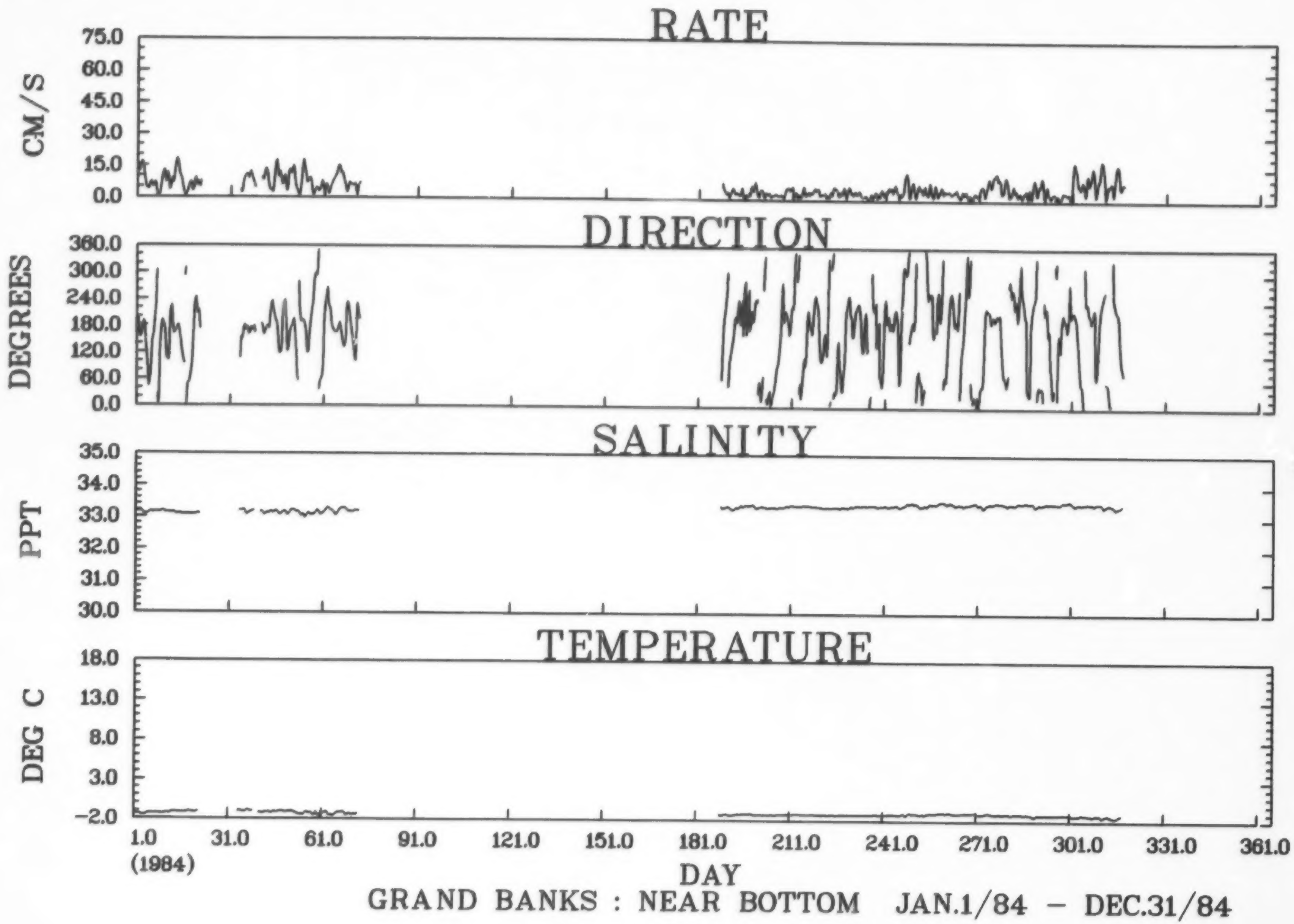


Figure 19(e'). Filtered time series of currents shown in Figure 19(e).

Figure 20 Progressive vector diagram of the current data shown in Figure 14 . The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.

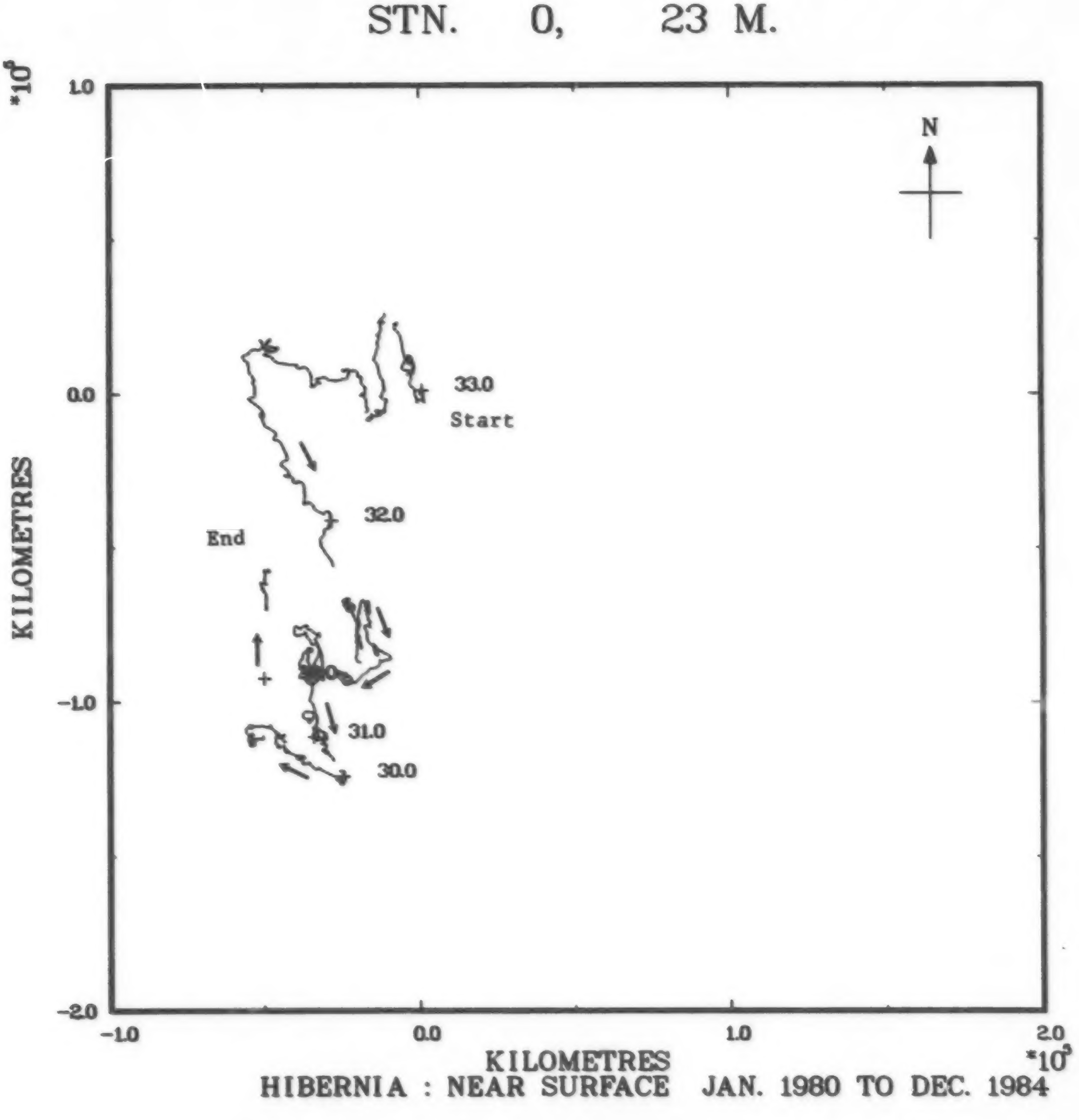


Figure 21. Progressive vector diagram of the current data shown in Figure 15 . The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.

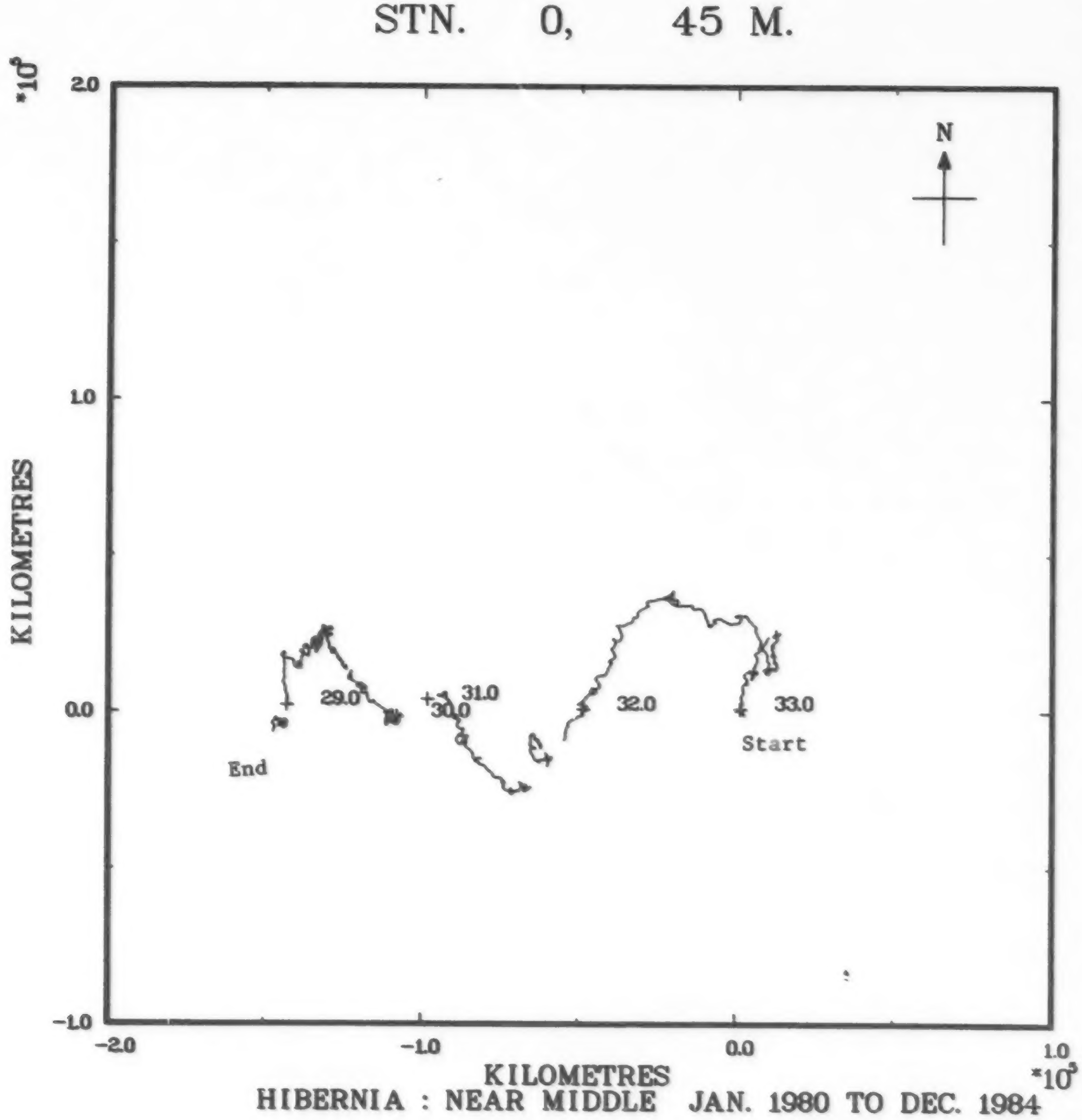


Figure 22. Progressive vector diagram of the current data shown in Figure 16 . The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.

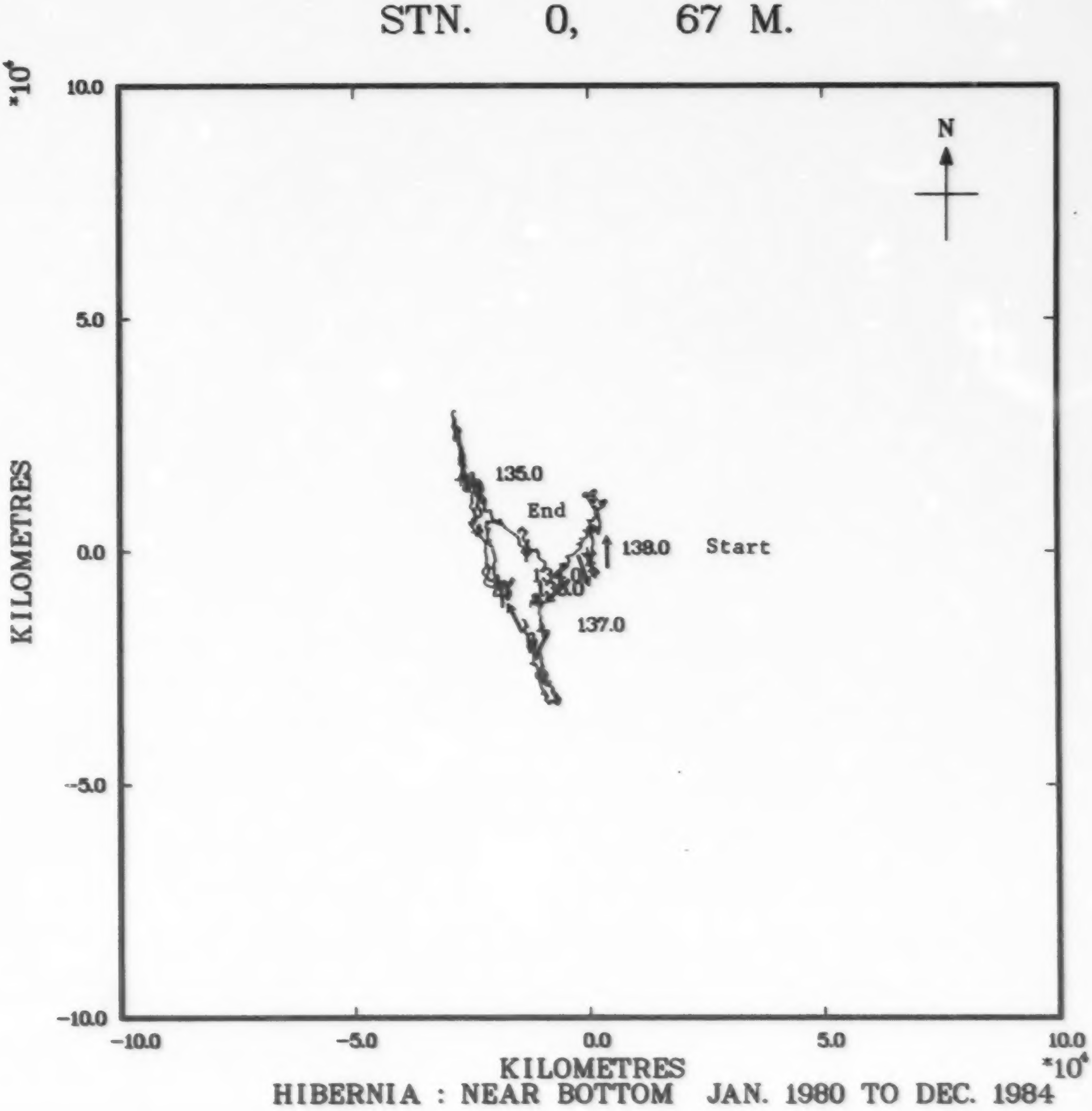


Figure 23. Progressive vector diagram of the current data shown in Figure 17 . The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.

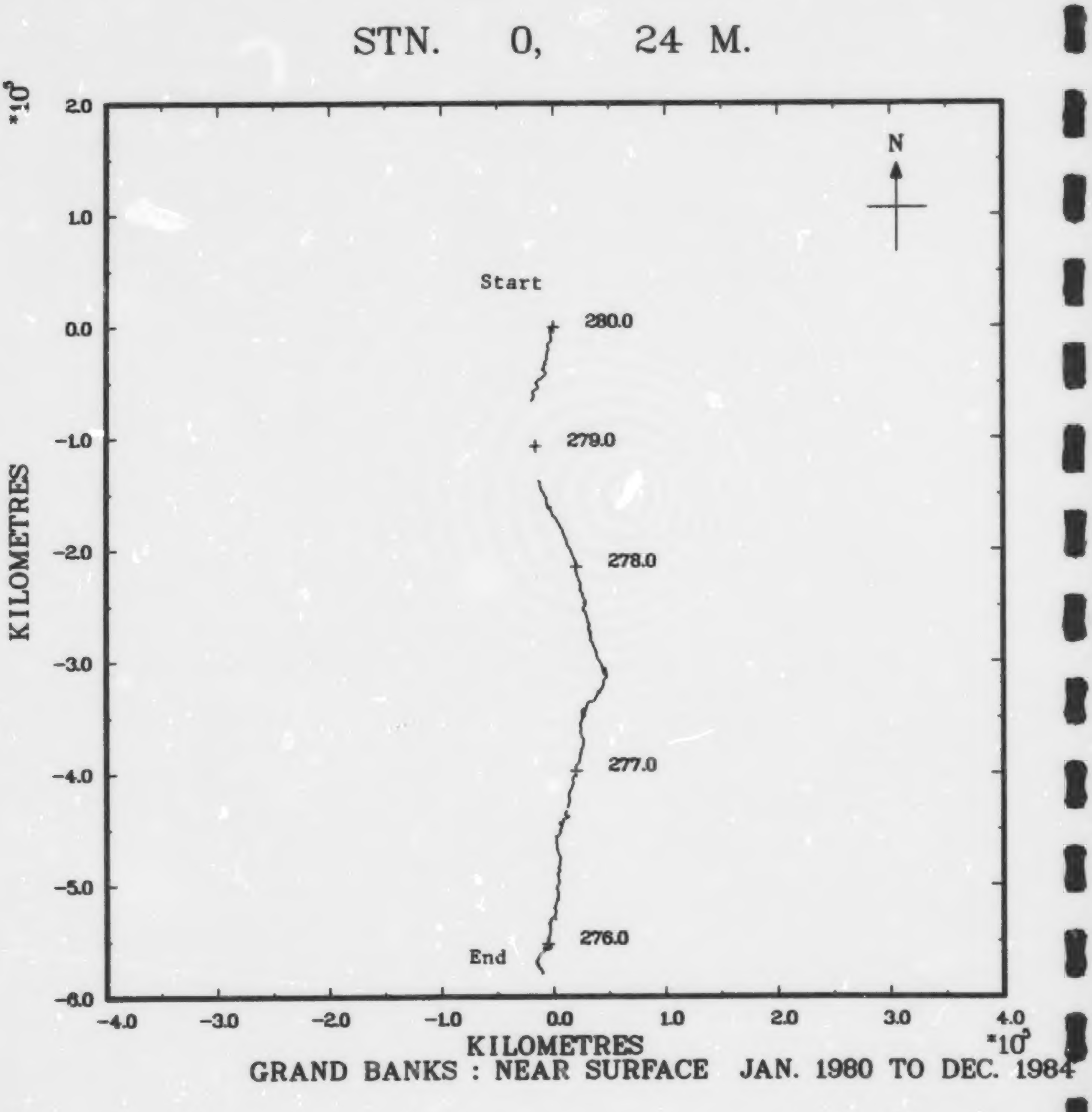


Figure 24. Progressive vector diagram of the current data shown in Figure 18 . The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.

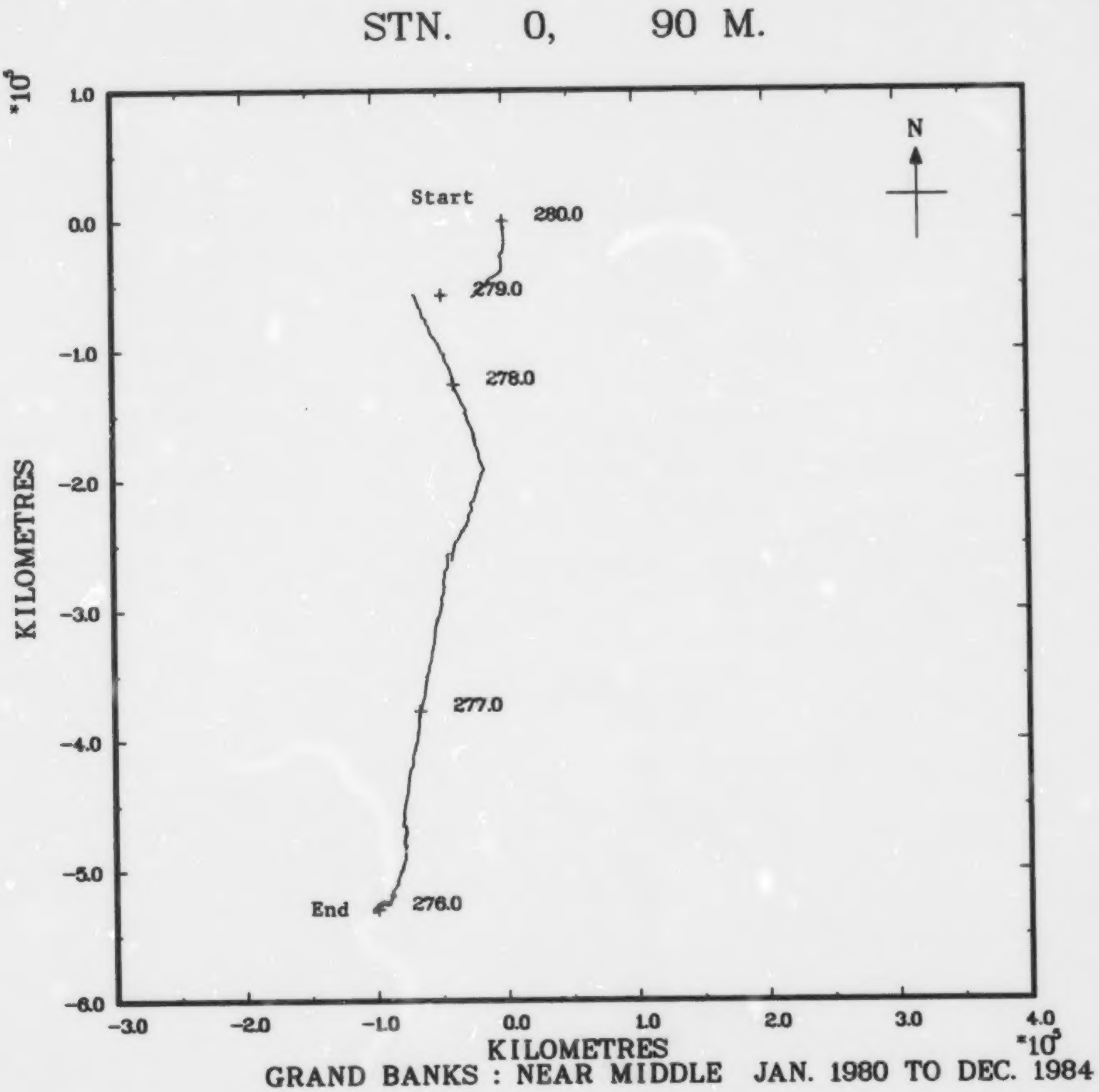
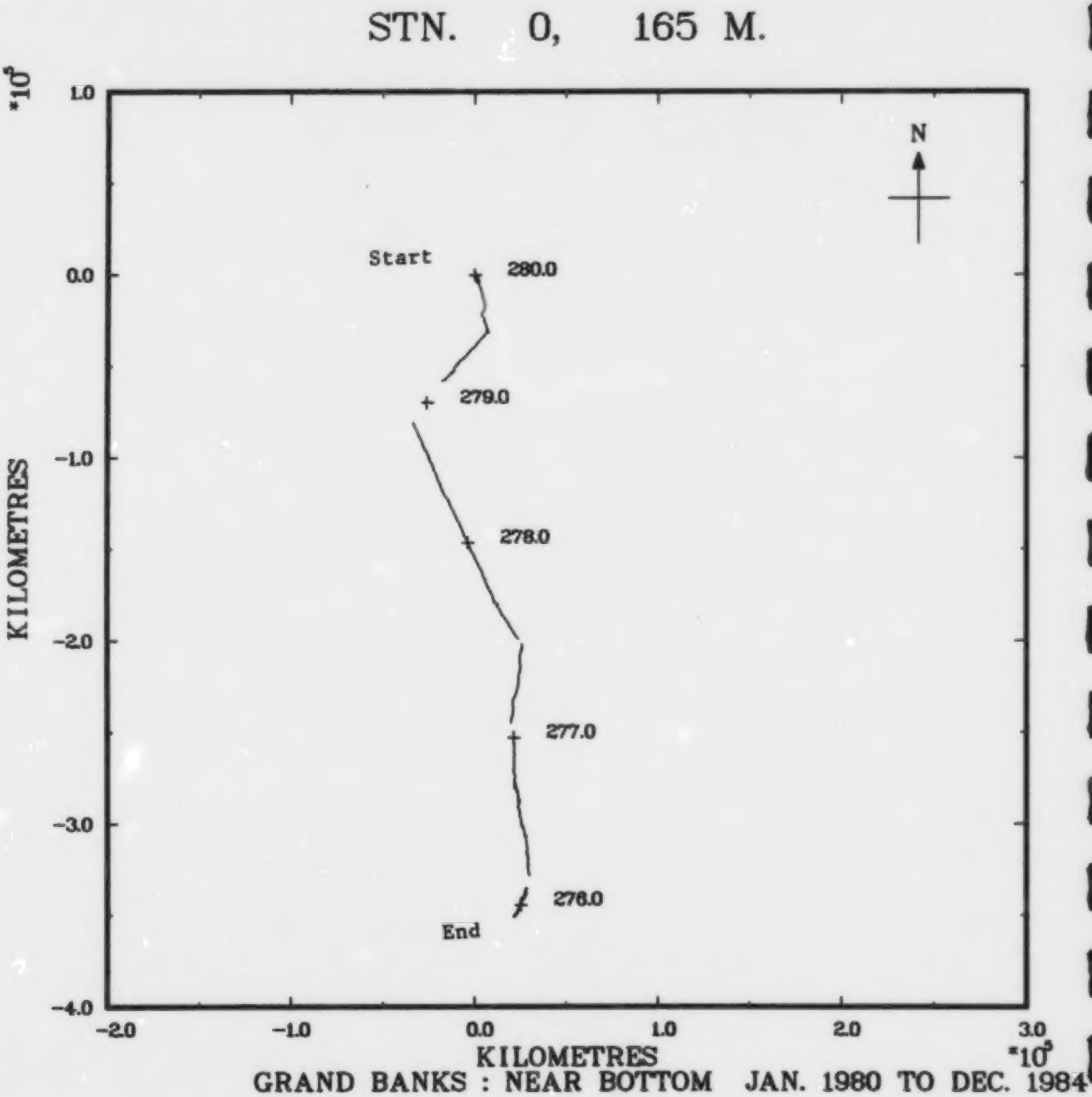


Figure 25. Progressive vector diagram of the current data shown in Figure 19 . The depth shown is the average depth of the records used to create the plot. Crosses are 1 year apart.



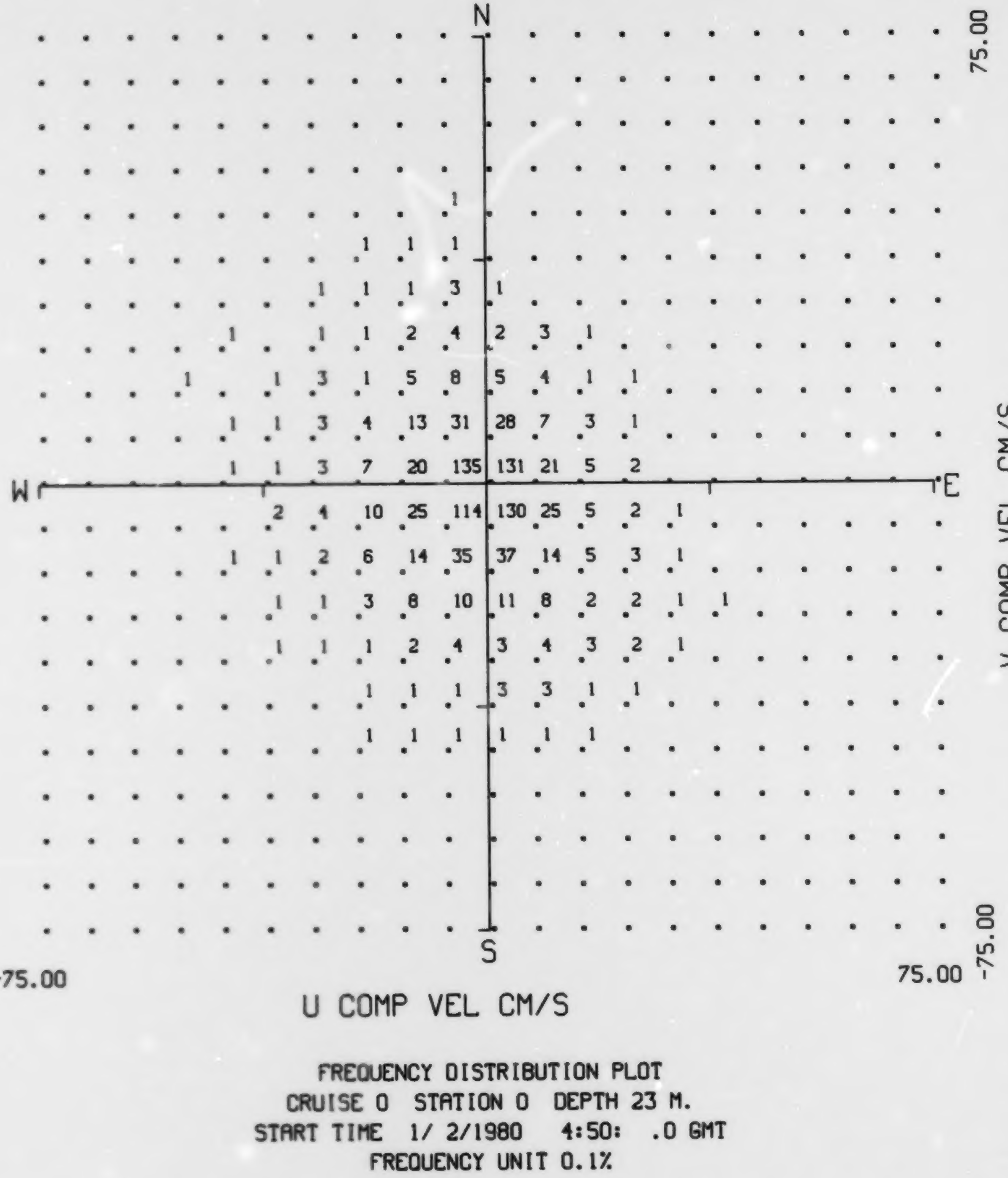


Figure 26. **Scatter plot of the filtered U-V components for the near surface layer at Hibernia.**

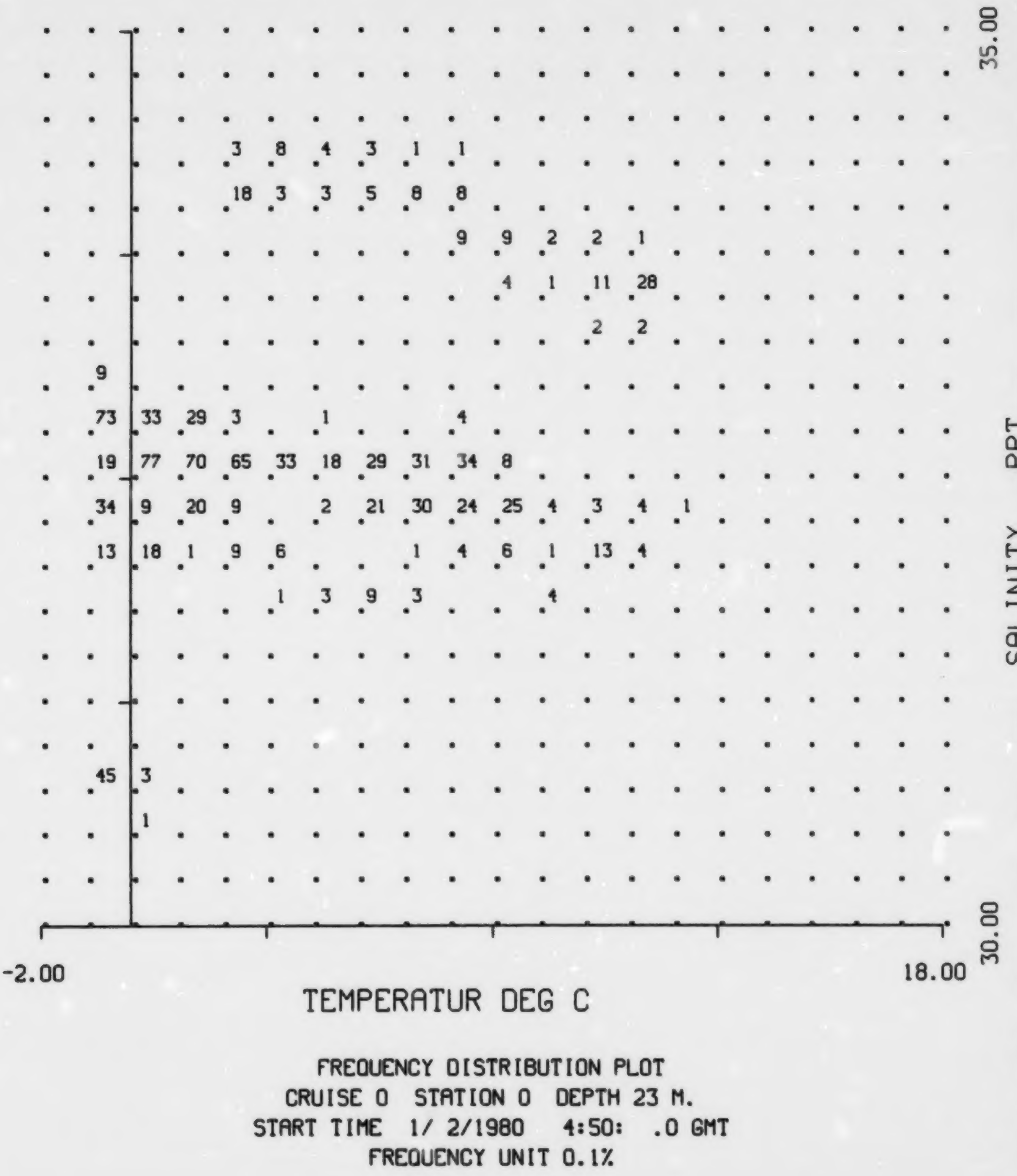


Figure 27. Scatter plot of the filtered T-S for the near surface layer at Hibernia.

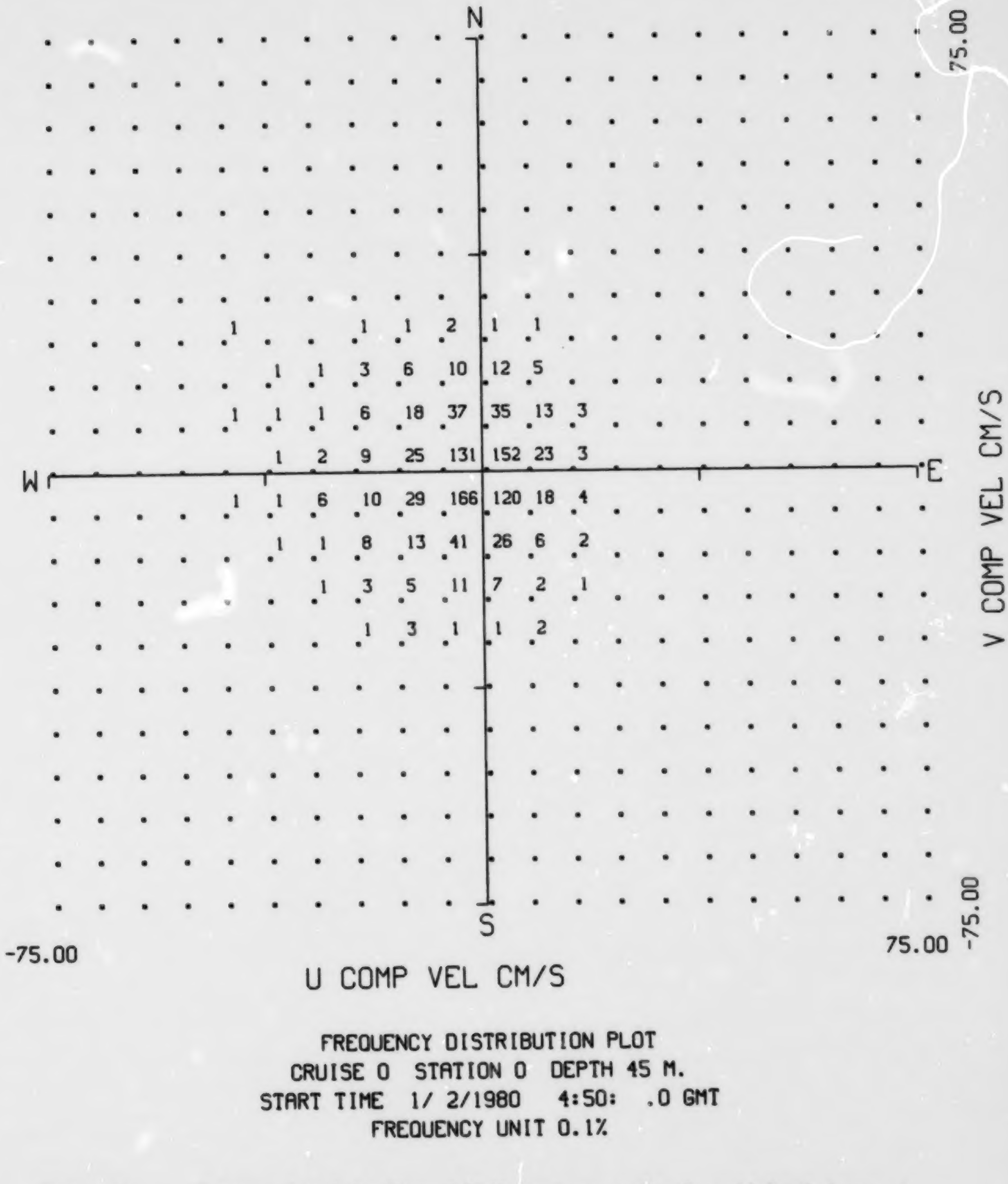


Figure 28. **Scatter plot of the filtered U-V components for the mid-depth layer at Hibernia.**

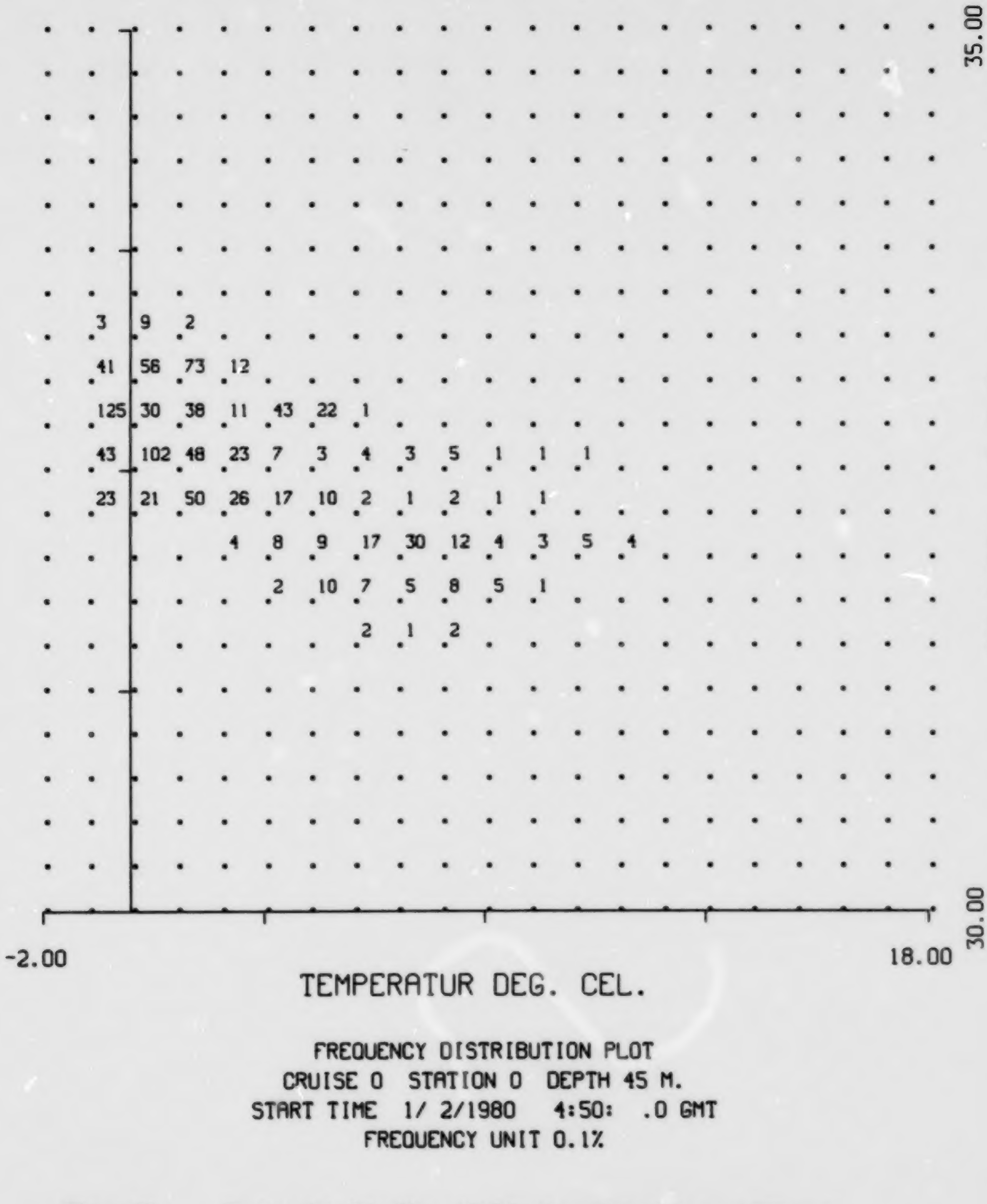


Figure 29. **Scatter plot of the filtered T-S for the mid-depth layer at Hibernia.**

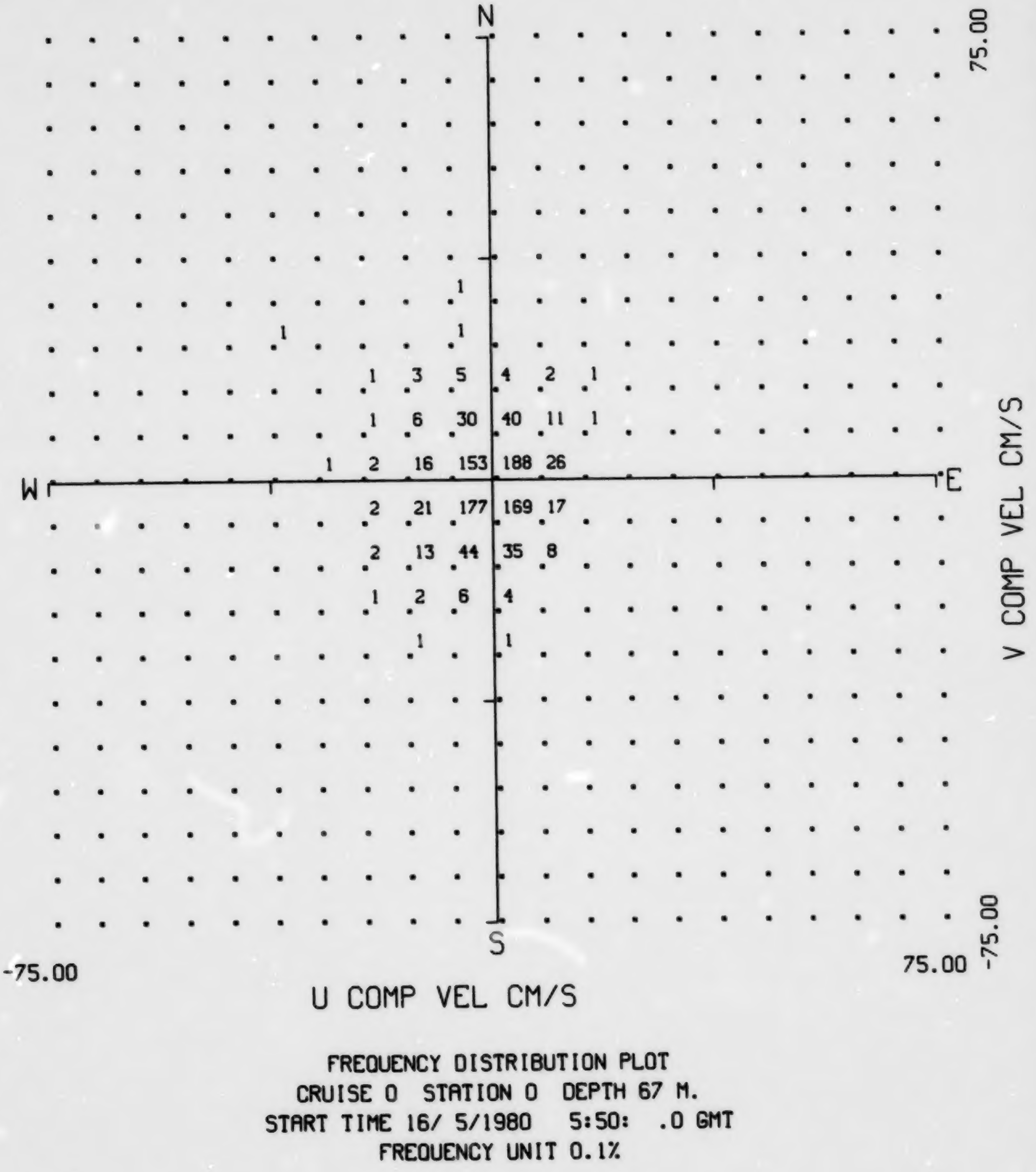


Figure 30. Scatter plot of the filtered U-V components for the near bottom layer at Hibernia.

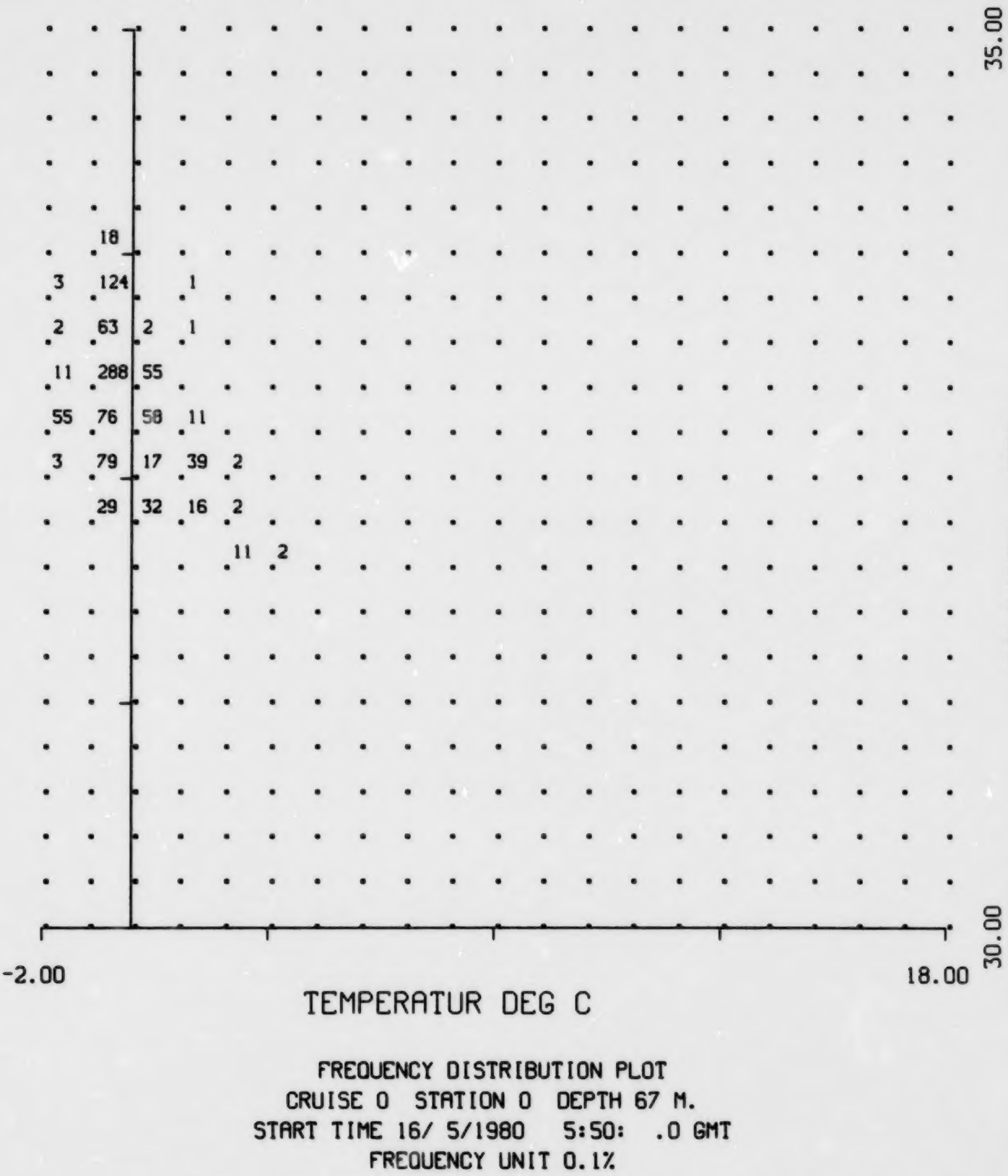


Figure 31. Scatter plot of the filtered T-S for the near bottom layer at Hibernia.

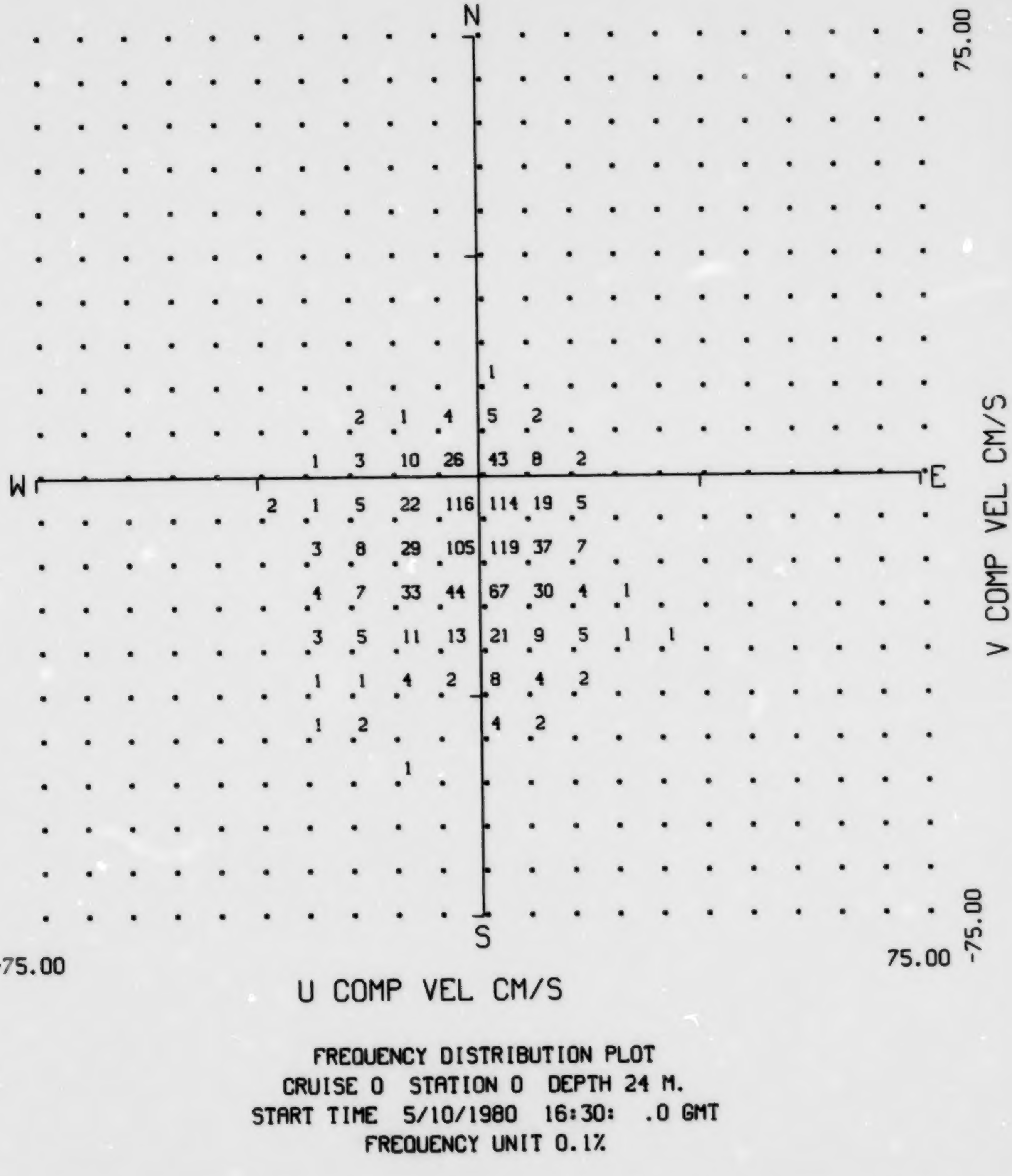


Figure 32. Scatter plot of the filtered U-V components for the near surface layer in the slope region near Hibernia.

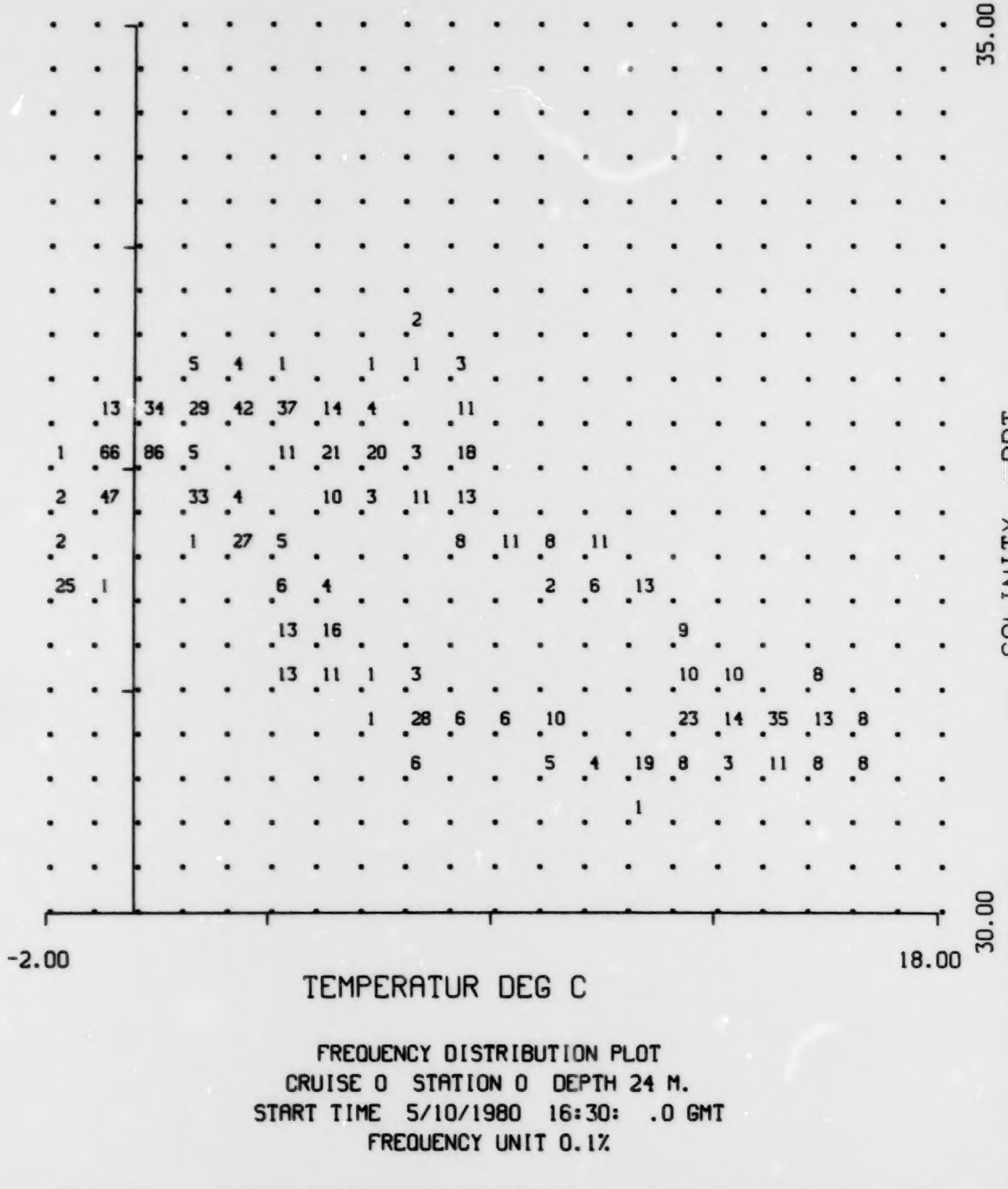


Figure 33. **Scatter plot of the filtered T-S for the near surface layer in the slope region near Hibernia.**

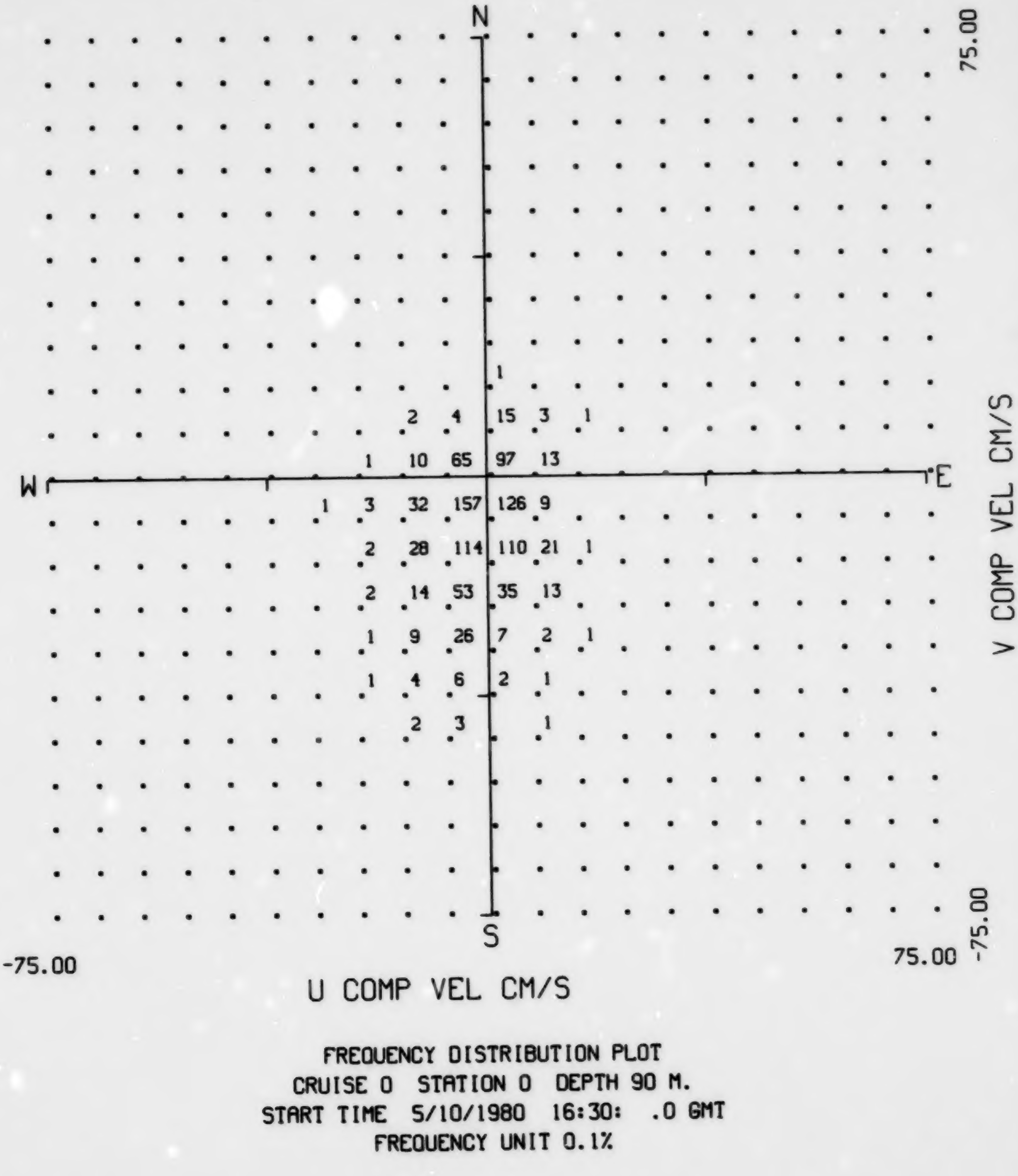


Figure 34. **Scatter plot of the filtered U-V components for the mid-depth layer in the slope region near Hibernia.**

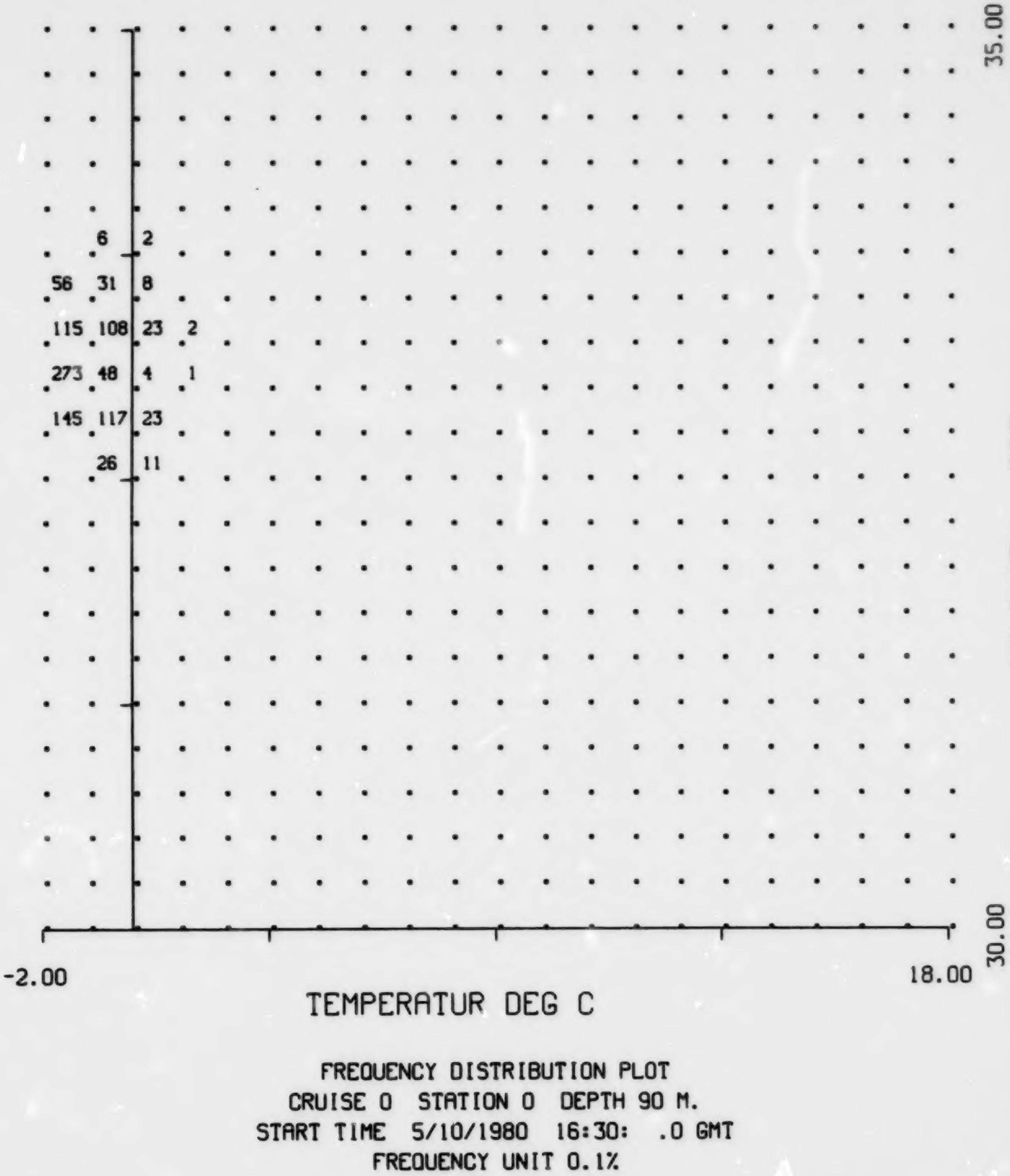


Figure 35. **Scatter plot of the filtered T-S for the mid-depth layer in the slope region near Hibernia.**

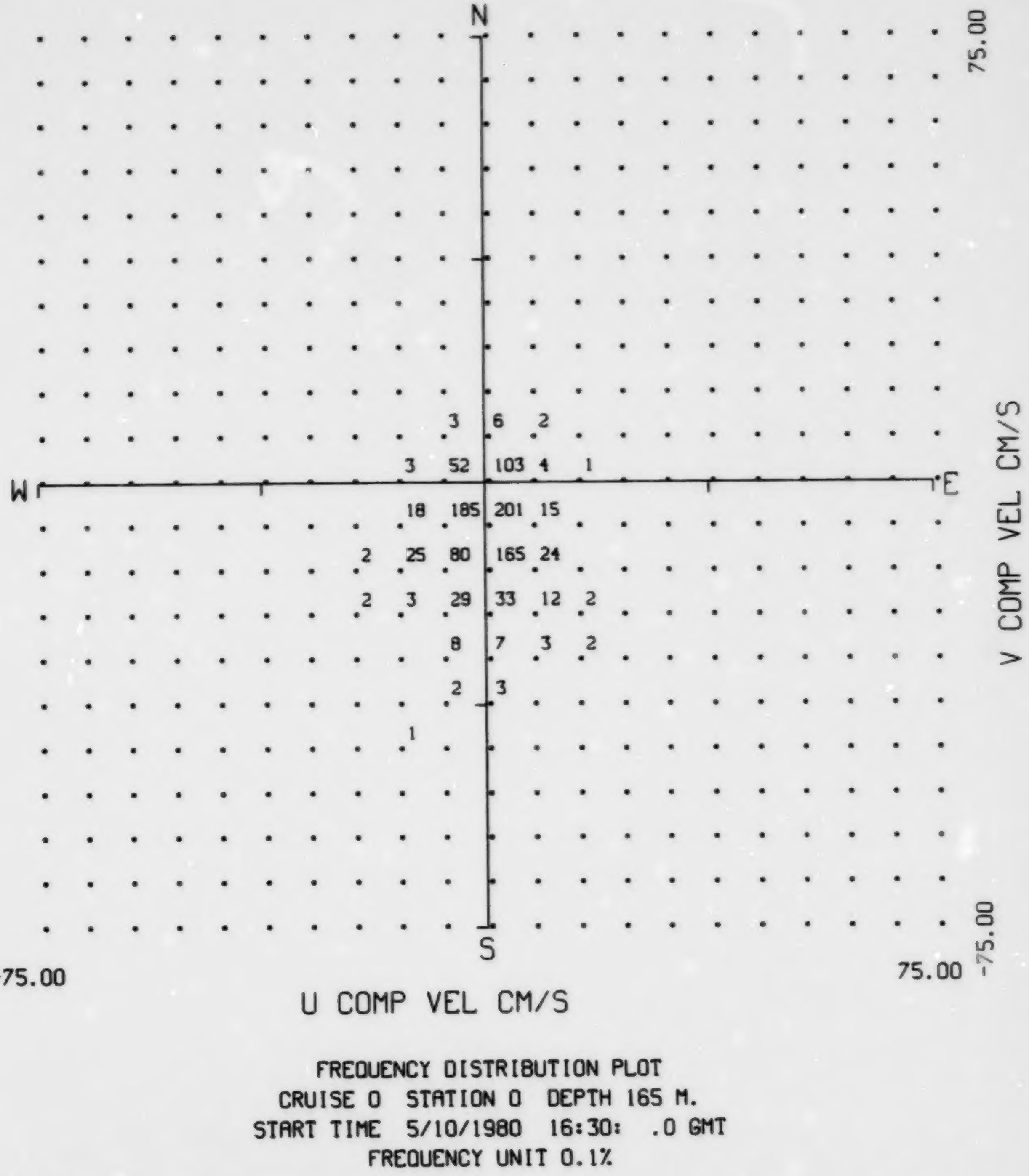


Figure 36. Scatter plot of the filtered U-V components for the near bottom layer in the slope region near Hibernia.

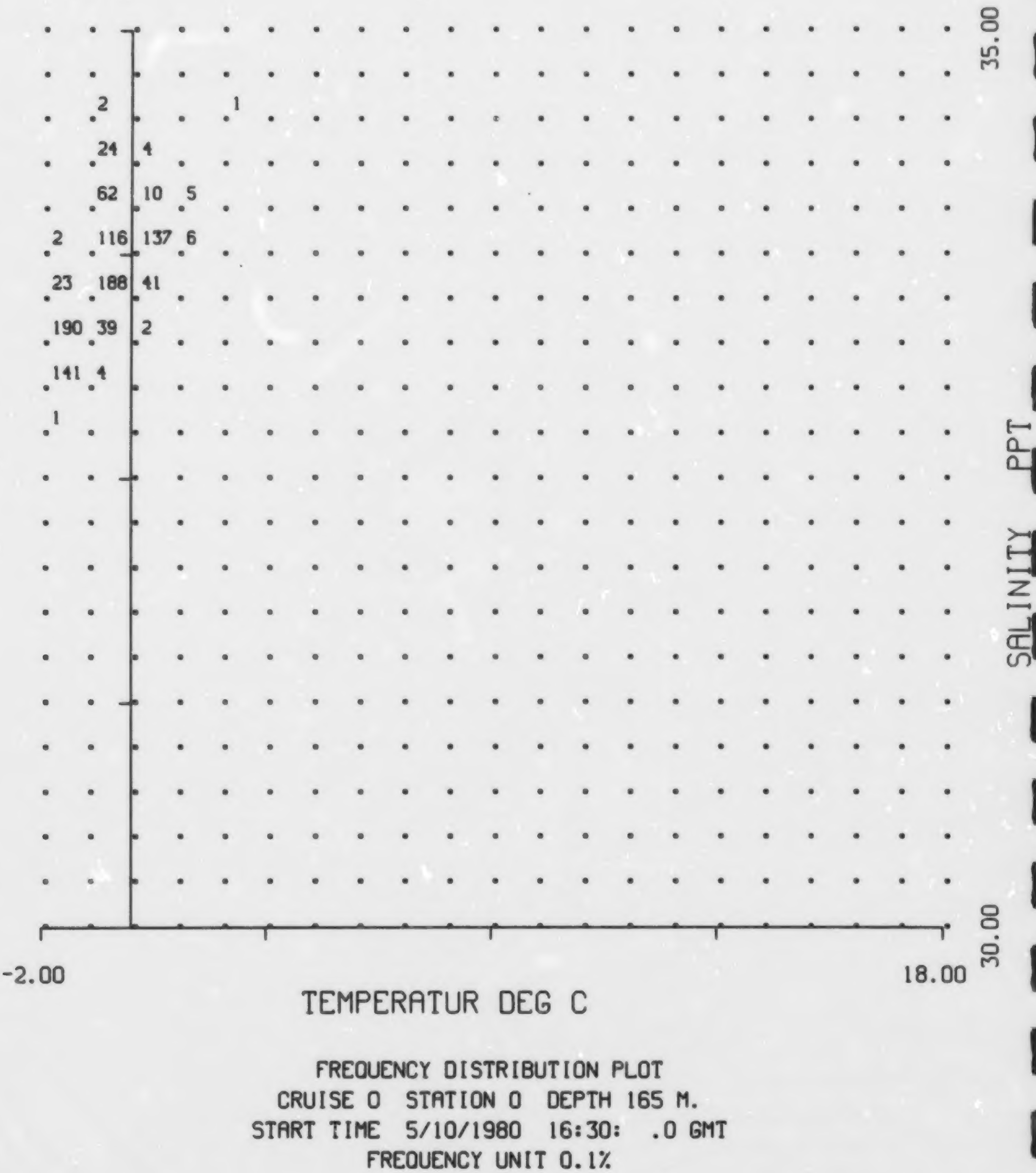
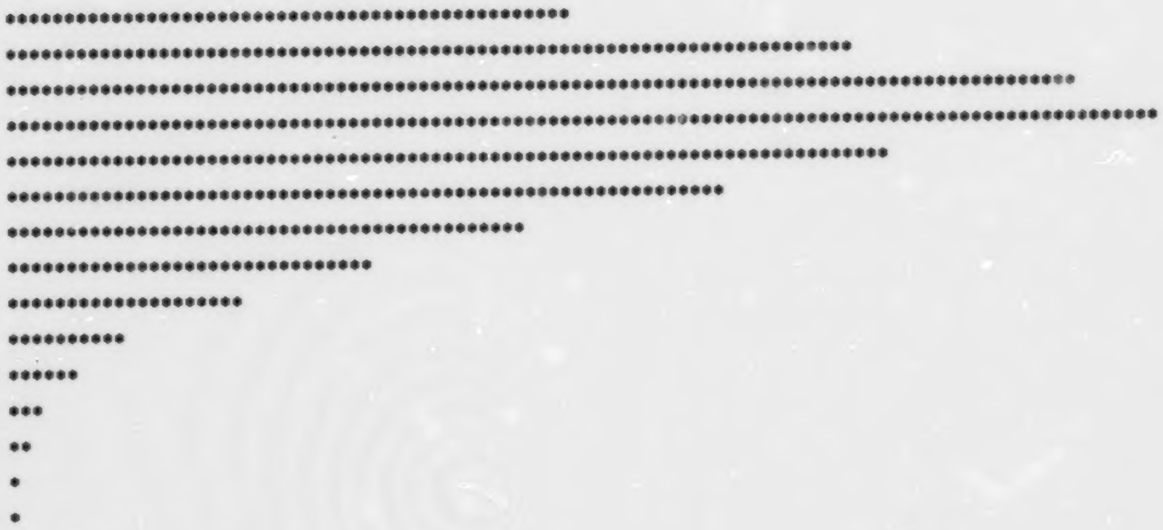


Figure 37. Scatter plot of the filtered T-S for the near bottom layer in the slope region near Hibernia.

A) HISTOGRAM OF RATE (CM/S) HIBERNIA : NEAR SURFACE JAN.1/80 - DEC.31/84 (20 M. ; 1 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
0.00	5.00	1849	8.5
5.00	10.00	2783	12.8
10.00	15.00	3546	16.4
15.00	20.00	3809	17.6
20.00	25.00	2915	13.5
25.00	30.00	2366	10.9
30.00	35.00	1698	7.8
35.00	40.00	1185	5.5
40.00	45.00	754	3.5
45.00	50.00	359	1.7
50.00	55.00	219	1.0
55.00	60.00	86	.4
60.00	65.00	41	.2
65.00	70.00	27	.1
70.00	75.00	16	.1



TOTAL NO. OF CYCLES 40085
MISSING DATA 18429

TOTAL NO. OF SAMPLES 21656

Table 1. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the hourly data.

B) HISTOGRAM OF RATE (CM/S) HIBERNIA : NEAR MIDDLE JAN.1/80 - DEC.31/84 (45 M. ; 1 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	579	2.7	**********
5.00	10.00	3286	15.4	***
10.00	15.00	5979	28.1	**
15.00	20.00	5101	23.9	**
20.00	25.00	3335	15.6	**
25.00	30.00	1747	8.2	******************************
30.00	35.00	717	3.4	************
35.00	40.00	316	1.5	******
40.00	45.00	150	.7	***
45.00	50.00	53	.2	*
50.00	55.00	21	.1	*
55.00	60.00	10	.0	*
60.00	65.00	4	.0	*
65.00	70.00	2	.0	*
70.00	75.00	0	0.0	

TOTAL NO. OF CYCLES 41010
MISSING DATA 19710

TOTAL NO. OF SAMPLES 21300

Table 1. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the hourly data.

C) HISTOGRAM OF RATE (CM/S) HIBERINA : NEAR BOTTOM JAN.1/80 – DEC.31/80 (75 M. : 1 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	1036	4.5	************
5.00	10.00	5799	25.4	**
10.00	15.00	8651	37.8	***
15.00	20.00	4860	21.3	***
20.00	25.00	1722	7.5	********************
25.00	30.00	563	2.5	*******
30.00	35.00	153	.7	**
35.00	40.00	47	.2	*
40.00	45.00	14	.1	*
45.00	50.00	9	.0	*
50.00	55.00	6	.0	*
55.00	60.00	6	.0	*
60.00	65.00	1	.0	*
65.00	70.00	0	0.0	
70.00	75.00	0	0.0	

TOTAL NO. OF CYCLES 40189
MISSING DATA 17322

TOTAL NO. OF SAMPLES 22867

Table 1. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the hourly data.

A) HISTOGRAM OF RATE (CM/S) HIBERNIA : NEAR SURFACE JAN.1/80 - DEC.31/84 (20 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
0.00	5.00	1094	30.8
5.00	10.00	970	27.3
10.00	15.00	564	15.9
15.00	20.00	340	9.6
20.00	25.00	214	6.0
25.00	30.00	140	3.9
30.00	35.00	101	2.8
35.00	40.00	62	1.7
40.00	45.00	37	1.0
45.00	50.00	19	.5
50.00	55.00	11	.3
55.00	60.00	3	.1
60.00	65.00	2	.1
65.00	70.00	1	.0
70.00	75.00	0	0.0

TOTAL NO. OF CYCLES 6660
MISSING DATA 3102

TOTAL NO. OF SAMPLES 3558

Table 2. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the filtered data.

B) HISTOGRAM OF RATE (CM/S) HIBERNIA : NEAR MIDDLE JAN.1/80 - DEC.31/84 (45 M. : 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	1204	34.4	**
5.00	10.00	1086	31.0	**
10.00	15.00	574	16.4	***
15.00	20.00	334	9.5	*************************
20.00	25.00	170	4.9	**************
25.00	30.00	79	2.3	*******
30.00	35.00	23	.7	**
35.00	40.00	14	.4	**
40.00	45.00	10	.3	*
45.00	50.00	2	.1	*
50.00	55.00	1	.0	*
55.00	60.00	0	0.0	
60.00	65.00	0	0.0	
65.00	70.00	0	0.0	
70.00	75.00	0	0.0	

TOTAL NO. OF CYCLES 6814
MISSING DATA 3317

TOTAL NO. OF SAMPLES 3497

Table 2. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the filtered data.

C) HISTOGRAM OF RATE (CM/S) HIBERNIA : NEAR BOTTOM JAN.1/80 - DEC.31/84 (75 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
0.00	5.00	1574	41.9
5.00	10.00	1391	37.0
10.00	15.00	542	14.4
15.00	20.00	181	4.8
20.00	25.00	49	1.3
25.00	30.00	10	.3
30.00	35.00	8	.2
35.00	40.00	3	.1
40.00	45.00	2	.0
45.00	50.00	0	0.0
50.00	55.00	0	0.0
55.00	60.00	0	0.0
60.00	65.00	0	0.0
65.00	70.00	0	0.0
70.00	75.00	0	0.0

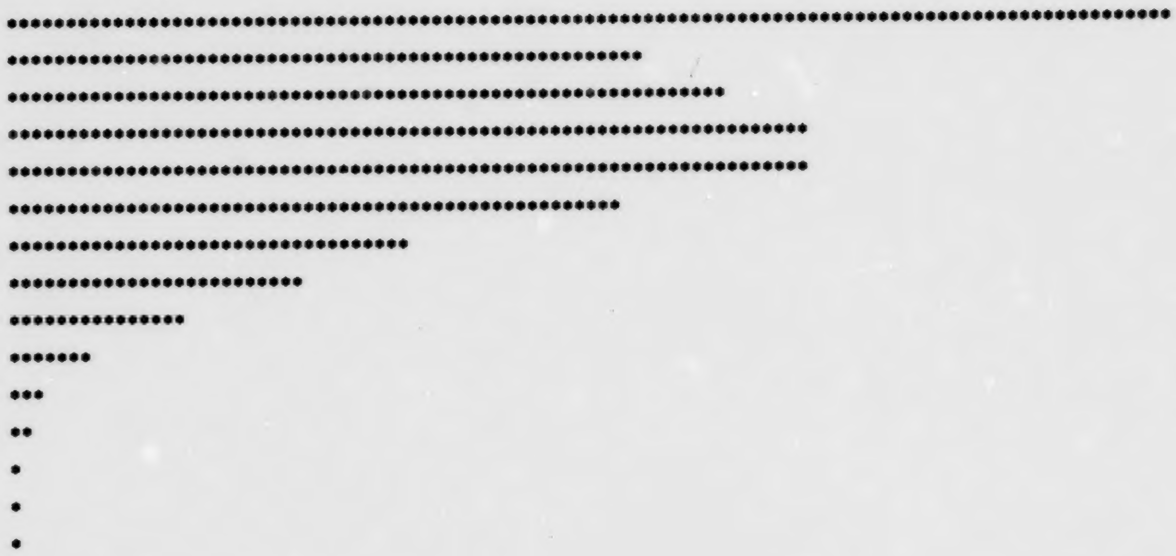
TOTAL NO. OF CYCLES 6677
MISSING DATA 2917

TOTAL NO. OF SAMPLES 3760

Table 2. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia for the filtered data.

A) HISTOGRAM OF RATE (CM/S) GRAND BANKS : NEAR SURFACE JAN.1/80 - DEC.31/84 (20 M. ; 1 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT
0.00	5.00	3256	20.4
5.00	10.00	1760	11.0
10.00	15.00	2003	12.6
15.00	20.00	2221	13.9
20.00	25.00	2230	14.0
25.00	30.00	1692	10.6
30.00	35.00	1107	6.9
35.00	40.00	800	5.0
40.00	45.00	472	3.0
45.00	50.00	220	1.4
50.00	55.00	95	.6
55.00	60.00	54	.4
60.00	65.00	16	.1
65.00	70.00	8	.0
70.00	75.00	8	.0



TOTAL NO. OF CYCLES 36771
MISSING DATA 20829

TOTAL NO. OF SAMPLES 15942

Table 3. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the hourly data.

B) HISTOGRAM OF RATE (CM/S) GRAND BANKS : NEAR MIDDLE JAN 1./80 - DEC.31/84 (100 M. ; 1 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
0.00	5.00	1430	7.3
5.00	10.00	5276	26.7
10.00	15.00	5669	28.7
15.00	20.00	3612	18.3
20.00	25.00	1953	10.0
25.00	30.00	890	4.5
30.00	35.00	446	2.3
35.00	40.00	240	1.2
40.00	45.00	132	.7
45.00	50.00	48	.2
50.00	55.00	26	.1
55.00	60.00	8	.0
60.00	65.00	0	0.0
65.00	70.00	0	0.0
70.00	75.00	0	0.0

TOTAL NO. OF CYCLES 36781
MISSING DATA 17051

TOTAL NO. OF SAMPLES 19730

Table 3. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the hourly data.

C) HISTOGRAM OF RATE (CM/S) GRAND BANKS : NEAR BOTTOM JAN.1/80 – DEC.31/84 (175 M. ; 1 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	1691	12.7	**
5.00	10.00	4298	32.2	***
10.00	15.00	3481	26.0	***
15.00	20.00	2142	16.0	**
20.00	25.00	1037	7.8	**************************
25.00	30.00	441	3.3	************
30.00	35.00	160	1.2	****
35.00	40.00	65	.5	**
40.00	45.00	23	.2	*
45.00	50.00	13	.1	*
50.00	55.00	7	.0	*
55.00	60.00	0	0.0	
60.00	65.00	0	0.0	
65.00	70.00	0	0.0	
70.00	75.00	0	0.0	

TOTAL NO. OF CYCLES 36102
MISSING DATA 22744

TOTAL NO. OF SAMPLES 13358

Table 3. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the hourly data.

A) HISTOGRAM OF RATE (CM/S) GRAND BANKS : NEAR SURFACE JAN.1/80 – DEC.31/84 (20 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	301	13.4	***
5.00	10.00	543	24.2	***
10.00	15.00	521	23.2	***
15.00	20.00	375	16.7	***
20.00	25.00	264	11.7	**
25.00	30.00	107	4.8	******************
30.00	35.00	69	3.1	************
35.00	40.00	38	1.7	*******
40.00	45.00	20	.9	****
45.00	50.00	9	.4	**
50.00	55.00	0	0.0	
55.00	60.00	0	0.0	
60.00	65.00	0	0.0	
65.00	70.00	0	0.0	
70.00	75.00	0	0.0	

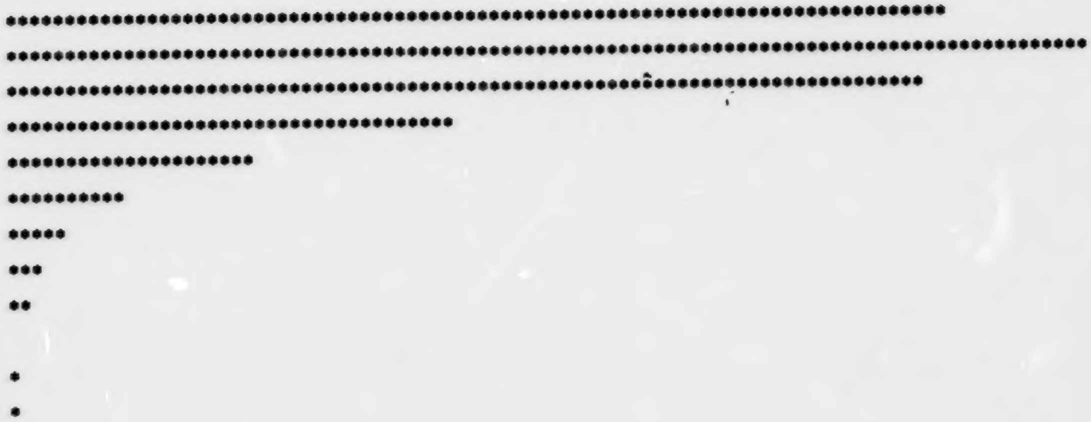
TOTAL NO. OF CYCLES 6108
MISSING DATA 3861

TOTAL NO. OF SAMPLES 2247

Table 4. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

B) HISTOGRAM OF RATE (CM/S) GRAND BANKS : NEAR MIDDLE JAN.1/80 - DEC.31/84 (100 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
0.00	5.00	796	24.5
5.00	10.00	913	28.1
10.00	15.00	774	23.9
15.00	20.00	380	11.7
20.00	25.00	201	6.2
25.00	30.00	92	2.8
30.00	35.00	44	1.4
35.00	40.00	25	.8
40.00	45.00	16	.5
45.00	50.00	0	0.0
50.00	55.00	4	.1
55.00	60.00	1	.0
60.00	65.00	0	0.0
65.00	70.00	0	0.0
70.00	75.00	0	0.0



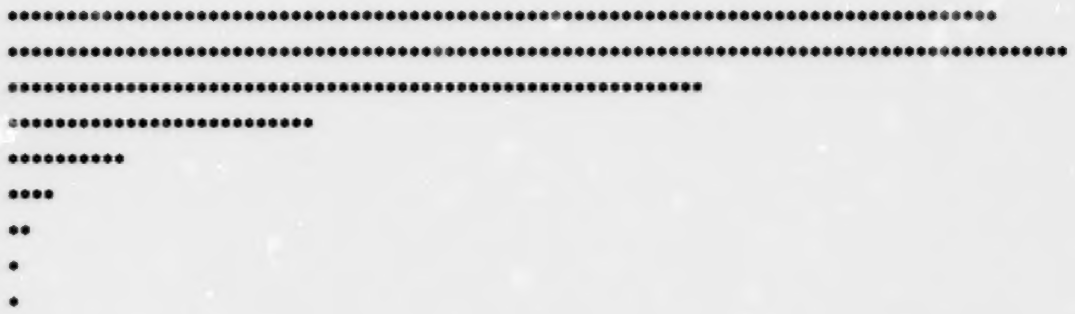
TOTAL NO. OF CYCLES 6109
MISSING DATA 2863

TOTAL NO. OF SAMPLES 3246

Table 4. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

C) HISTOGRAM OF RATE (CM/S) GRAND BANKS : NEAR BOTTOM JAN.1/80 - DEC.31/84 (175 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT
0.00	5.00	666	30.3
5.00	10.00	714	32.7
10.00	15.00	472	21.6
15.00	20.00	208	9.5
20.00	25.00	76	3.5
25.00	30.00	31	1.4
30.00	35.00	10	.5
35.00	40.00	6	.3
40.00	45.00	2	.1
45.00	50.00	0	0.0
50.00	55.00	0	0.0
55.00	60.00	0	0.0
60.00	65.00	0	0.0
65.00	70.00	0	0.0
70.00	75.00	0	0.0



TOTAL NO. OF CYCLES 5996
MISSING DATA 3811

TOTAL NO. OF SAMPLES 2185

Table 4. Histograms of rate for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

A) HISTOGRAM OF TEMPERATURE (DEG C) HIBERNIA : NEAR SURFACE JAN.1/80 – DEC.31/84 (20 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.00	0	0.0	
-1.00	0.00	606	19.0	***
0.00	1.00	444	14.0	**
1.00	2.00	377	11.8	***
2.00	3.00	339	10.7	**
3.00	4.00	172	5.4	***************************
4.00	5.00	94	3.0	***************
5.00	6.00	215	6.7	**********************************
6.00	7.00	239	7.5	**************************************
7.00	8.00	274	8.6	***
8.00	9.00	165	5.2	**************************
9.00	10.00	39	1.2	******
10.00	11.00	94	3.0	***************
11.00	12.00	122	3.8	*******************
12.00	13.00	3	.1	*
13.00	14.00	0	0.0	
14.00	15.00	0	0.0	
15.00	16.00	0	0.0	
16.00	17.00	0	0.0	
17.00	18.00	0	0.0	

TOTAL NO. OF CYCLES 6525
MISSING DATA 3342

TOTAL NO. OF SAMPLES 3183

Table 5. Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.

B) HISTOGRAM OF TEMPERATUR (DEG C) HIBERNIA : NEAR MIDDLE JAN.1/80 - DEC.31/84 (45 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.00	0	0.0	
-1.00	0.00	907	23.6	***
0.00	1.00	841	21.9	***
1.00	2.00	810	21.1	***
2.00	3.00	292	7.6	******************************
3.00	4.00	294	7.6	******************************
4.00	5.00	209	5.4	*********************
5.00	6.00	122	3.2	*************
6.00	7.00	157	4.1	****************
7.00	8.00	110	2.9	***********
8.00	9.00	42	1.1	*****
9.00	10.00	23	.6	***
10.00	11.00	23	.6	***
11.00	12.00	16	.4	**
12.00	13.00	0	0.0	
13.00	14.00	0	0.0	
14.00	15.00	0	0.0	
15.00	16.00	0	0.0	
16.00	17.00	0	0.0	
17.00	18.00	0	0.0	

TOTAL NO. OF CYCLES 6814
MISSING DATA 2968

TOTAL NO. OF SAMPLES 3846

Table 5. Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.

C) HISTOGRAM OF TEMPERATURE (DEG C) HIBERNIA : NEAR BOTTOM JAN.1/80 – DEC.31/84 (75 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.00	256	6.8	**********
-1.00	0.00	2616	69.6	**
0.00	1.00	592	15.7	**********************
1.00	2.00	238	6.3	*********
2.00	3.00	51	1.3	**
3.00	4.00	7	.2	*
4.00	5.00	0	0.0	
5.00	6.00	0	0.0	
6.00	7.00	0	0.0	
7.00	8.00	0	0.0	
8.00	9.00	0	0.0	
9.00	10.00	0	0.0	
10.00	11.00	0	0.0	
11.00	12.00	0	0.0	
12.00	13.00	0	0.0	
13.00	14.00	0	0.0	
14.00	15.00	0	0.0	
15.00	16.00	0	0.0	
16.00	17.00	0	0.0	
17.00	18.00	0	0.0	

TOTAL NO. OF CYCLES 6677
MISSING DATA 2917

TOTAL NO. OF SAMPLES 3760

Table 5. Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.

A) HISTOGRAM OF TEMPERATURE (DEG C) GRAND BANKS : NEAR SURFACE JAN.1/80 – DEC.31/84 (20 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT
-2.00	-1.00	313	18.2
-1.00	0.00	219	12.7
0.00	1.00	169	9.8
1.00	2.00	104	6.0
2.00	3.00	108	6.3
3.00	4.00	121	7.0
4.00	5.00	107	6.2
5.00	6.00	44	2.7
6.00	7.00	78	4.5
7.00	8.00	85	4.9
8.00	9.00	23	1.3
9.00	10.00	36	2.1
10.00	11.00	30	1.7
11.00	12.00	48	2.8
12.00	13.00	71	4.1
13.00	14.00	38	2.2
14.00	15.00	64	3.7
15.00	16.00	42	2.4
16.00	17.00	24	1.4
17.00	18.00	0	0.0

TOTAL NO. OF CYCLES 6108
MISSING DATA 4384

TOTAL NO. OF SAMPLES 1724

Table 6. Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

B) HISTOGRAM OF TEMPERATURE (DEG C) GRAND BANKS : NEAR MIDDLE JAN.1/80 - DEC.31/84 (100 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.00	1911	58.9	**
-1.00	0.00	1094	33.7	***
0.00	1.00	231	7.1	************
1.00	2.00	9	.3	*
2.00	3.00	0	0.0	
3.00	4.00	0	0.0	
4.00	5.00	0	0.0	
5.00	6.00	0	0.0	
6.00	7.00	0	0.0	
7.00	8.00	0	0.0	
8.00	9.00	0	0.0	
9.00	10.00	0	0.0	
10.00	11.00	0	0.0	
11.00	12.00	0	0.0	
12.00	13.00	0	0.0	
13.00	14.00	0	0.0	
14.00	15.00	0	0.0	
15.00	16.00	0	0.0	
16.00	17.00	0	0.0	
17.00	18.00	0	0.0	

TOTAL NO. OF CYCLES 6109
MISSING DATA 2864

TOTAL NO. OF SAMPLES 3245

Table 6. Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

C) HISTOGRAM OF TEMPERATURE (DEG C) GRAND BANKS : NEAR BOTTOM JAN.1/80 – DEC.31/84 (175 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
-2.00	-1.00	870	35.8	**
-1.00	0.00	1059	43.5	***
0.00	1.00	472	19.4	***************************************
1.00	2.00	28	1.2	***
2.00	3.00	3	.1	*
3.00	4.00	0	0.0	
4.00	5.00	0	0.0	
5.00	6.00	0	0.0	
6.00	7.00	0	0.0	
7.00	8.00	0	0.0	
8.00	9.00	0	0.0	
9.00	10.00	0	0.0	
10.00	11.00	0	0.0	
11.00	12.00	0	0.0	
12.00	13.00	0	0.0	
13.00	14.00	0	0.0	
14.00	15.00	0	0.0	
15.00	16.00	0	0.0	
16.00	17.00	0	0.0	
17.00	18.00	0	0.0	

TOTAL NO. OF CYCLES 5996
MISSING DATA 3564

TOTAL NO. OF SAMPLES 2432

Table 6. Histograms of temperature for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

A) HISTOGRAM OF SALINITY (PPT) HIBERNIA : NEAR SURFACE JAN.1/80 - DEC.31/84 (20 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
30.00	30.50	0	0.0	
30.50	31.00	152	4.8	*********
31.00	31.50	0	0.0	
31.50	32.00	62	2.0	****
32.00	32.50	816	26.0	**
32.50	33.00	1661	52.9	**
33.00	33.50	40	1.3	***
33.50	34.00	206	6.6	*************
34.00	34.50	203	6.5	************
34.50	35.00	0	0.0	

TOTAL NO. OF CYCLES 6525
MISSING DATA 3383

TOTAL NO. OF SAMPLES 3142

Table 7. Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.

B) HISTOGRAM OF SALINITY (PPT) HIBERNIA : NEAR MIDDLE JAN.1/80 - DEC.31/84 (45 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
30.00	30.50	0	0.0	
30.50	31.00	0	0.0	
31.00	31.50	0	0.0	
31.50	32.00	162	4.1	********
32.00	32.50	993	25.3	**
32.50	33.00	2016	51.3	***
33.00	33.50	756	19.3	**********************************
33.50	34.00	0	0.0	
34.00	34.50	0	0.0	
34.50	35.00	0	0.0	

TOTAL NO. OF CYCLES 6814
MISSING DATA 2887

TOTAL NO. OF SAMPLES 3927

Table 7. Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.

C) HISTOGRAM OF SALINITY (PPT) HIBERNIA : NEAR BOTTOM JAN.1/80 - DEC.31/84 (75 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
30.00	30.50	0	0.0
30.50	31.00	0	0.0
31.00	31.50	0	0.0
31.50	32.00	0	0.0
32.00	32.50	321	9.3
32.50	33.00	1176	33.9
33.00	33.50	1465	42.2
33.50	34.00	506	14.6
34.00	34.50	0	0.0
34.50	35.00	0	0.0

TOTAL NO. OF CYCLES 6677
MISSING DATA 3207

TOTAL NO. OF SAMPLES 3470

Table 7. Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers at Hibernia based on the filtered data.

A) HISTOGRAM OF SALINITY (PPT) GRAND BANKS : NEAR SURFACE JAN.1/80 - DEC.31/84 (20 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
30.00	30.50	0	0.0	
30.50	31.00	105	7.4	******************
31.00	31.50	284	20.1	**
31.50	32.00	133	9.4	***********************
32.00	32.50	280	19.8	***
32.50	33.00	589	41.6	***
33.00	33.50	24	1.7	****
33.50	34.00	0	0.0	
34.00	34.50	0	0.0	
34.50	35.00	0	0.0	

TOTAL NO. OF CYCLES 6108
MISSING DATA 4693

TOTAL NO. OF SAMPLES 1415

Table 8. Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

B) HISTOGRAM OF SALINITY (PPT) GRAND BANKS : NEAR MIDDLE JAN.1/80 - DEC.31/80 (100 M. ; 6 HOUR)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT
30.00	30.50	0	0.0
30.50	31.00	0	0.0
31.00	31.50	0	0.0
31.50	32.00	0	0.0
32.00	32.50	0	0.0
32.50	33.00	1048	32.3
33.00	33.50	1863	57.4
33.50	34.00	334	10.3
34.00	34.50	0	0.0
34.50	35.00	0	0.0

TOTAL NO. OF CYCLES 6109

MISSING DATA 2864

TOTAL NO. OF SAMPLES 3245

Table 8. Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

C) HISTOGRAM OF SALINITY (PPT) GRAND BANKS : NEAR BOTTOM JAN.1/80 - DEC.31/84 (175 M. ; 6 HOUR)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT
30.00	30.50	0	0.0
30.50	31.00	0	0.0
31.00	31.50	0	0.0
31.50	32.00	0	0.0
32.00	32.50	0	0.0
32.50	33.00	2	.1
33.00	33.50	915	37.6
33.50	34.00	1249	51.4
34.00	34.50	258	10.6
34.50	35.00	8	.3

TOTAL NO. OF CYCLES 5996

MISSING DATA 3564

TOTAL NO. OF SAMPLES 2432

Table 8. Histograms of salinity for the (a) near surface, (b) mid-depth and (c) bottom layers for the slope area near Hibernia based on the filtered data.

HIBERNIA : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
20.2	112.9	0.0	12.1	−0.6	60.0	−72.1	16.6	−1.1	108.5	−70.7	16.6	3.6	12.6	−0.9	3.6	32.66	30.69	34.39	0.66

HIBERNIA : NEAR MIDDLE JAN. 1980 – DEC. 1984 (45 M.) SAMPLE INTERVAL : 3600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
16.9	68.5	0.0	7.8	−1.6	52.4	−58.1	13.2	0.3	67.9	−46.1	13.0	1.9	12.8	−1.3	2.5	32.66	31.49	33.53	0.36

HIBERNIA : NEAR BOTTOM JAN. 1980 – DEC. 1984 (75 M.) SAMPLE INTERVAL : 3600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MIN	MAX	STDEV
13.2	61.7	0.2	5.7	−0.1	39.0	−39.0	10.1	0.0	47.3	−60.1	10.2	−0.3	3.3	−1.5	0.7	33.03	32.00	33.97	0.38

Table 9. Overall statistics of rate, u, v, T and S for all three depth levels at Hibernia based on the hourly data.

HIBERNIA : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

	R A T E				U – C O M P O N E N T				V – C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 0	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	20.2	32.0	2.4	6.5	1.4	22.2	–26.2	14.8	–6.2	19.0	–28.9	14.1	0.1	0.2	–0.1	0.1	32.84	32.93	32.74	0.04
FEB	22.1	50.3	1.2	10.0	–1.1	42.0	–39.5	16.3	4.4	44.9	–49.0	17.3	–0.6	0.2	–0.9	0.3	32.92	33.11	32.67	0.09
MARCH	21.5	44.5	3.9	7.7	–1.7	39.7	–33.4	12.8	4.6	43.4	–42.8	18.2	–0.4	0.0	–0.9	0.2	32.89	33.06	32.74	0.06
APRIL	28.3	112.9	10.5	23.6	–8.6	48.2	–61.3	20.3	–2.4	108.5	–53.3	30.0	–0.1	–0.1	–0.1	0.01	32.93	32.94	32.88	0.01
MAY	22.1	50.3	2.1	7.1	–1.7	36.4	–37.3	16.5	–4.3	32.0	–42.6	15.6	2.6	3.4	2.0	0.4	34.20	34.35	34.08	0.05
JUNE	22.2	57.0	0.6	7.8	0.8	47.5	–51.3	15.8	–6.6	48.3	–54.0	16.0	5.3	7.6	3.2	1.2	34.22	34.39	33.97	0.07
JULY	19.1	50.6	0.8	7.7	0.1	39.2	–43.7	14.3	–3.4	39.4	–47.4	14.5	8.5	10.7	6.8	1.0	33.83	34.20	33.67	0.13
AUGUST	25.7	70.0	1.4	12.1	–2.0	60.0	–69.7	20.8	–0.7	65.4	–68.7	19.2	11.2	12.2	9.4	0.4	33.58	33.88	33.39	0.08
SEPT																				
OCT	27.7	69.0	2.1	9.0	–3.4	42.6	–68.8	21.2	4.3	44.2	–40.5	19.2	7.6	8.6	6.2	0.6	32.65	32.98	32.49	0.07
NOV	28.5	68.6	3.7	10.6	–8.0	37.3	–62.5	23.1	5.3	52.0	–36.8	17.4	5.2	6.7	3.2	1.0	32.56	32.76	32.39	0.07
DEC	32.5	59.8	2.2	9.9	0.3	49.9	–49.4	22.4	–11.9	44.3	–55.5	22.6	2.5	3.6	1.5	0.6	32.65	32.79	32.45	0.05

Table 10. Monthly statistics of rate, u, v, T and S for the near surface layer at Hibernia based on the hourly data.

HIBERNIA : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

1 9 8 1	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	32.2	54.9	3.6	8.9	7.0	45.1	-45.3	21.2	-10.9	39.8	-54.4	22.3	1.9	2.4	1.5	0.2	32.55	32.71	32.43	0.03
FEB	32.0	57.1	3.8	9.5	1.1	45.4	-41.7	20.4	-18.0	32.2	-57.1	19.3	1.6	2.0	0.6	0.3	32.49	32.61	32.41	0.04
MARCH	21.4	29.8	5.9	3.6	0.8	25.6	-23.0	15.1	1.8	28.5	-24.1	15.6	0.1	0.2	0.0	0.1	32.76	32.87	32.62	0.05
APRIL	22.1	45.5	3.3	6.2	1.2	32.1	-43.6	16.3	-3.8	37.4	-32.3	15.6	0.6	1.2	0.1	0.3	32.73	32.87	32.56	0.06
MAY	16.2	28.4	0.0	3.7	0.7	22.4	-23.8	11.3	-2.8	21.3	-22.6	11.8	2.3	3.8	1.1	0.8	32.68	32.85	32.59	0.04
JUNE																				
JULY	15.6	32.5	2.8	6.6	-0.2	29.9	-27.7	11.7	5.5	31.5	-20.7	10.7	-0.2	0.3	-0.6	0.2	30.87	31.08	30.69	0.06
AUGUST	13.4	25.3	2.3	4.5	0.4	22.7	-24.4	9.9	3.1	23.3	-18.9	9.5	0.5	2.0	-0.6	0.8	31.96	32.86	30.76	0.94
SEPT	15.6	35.6	2.9	5.1	0.5	26.0	-34.4	11.5	-1.0	28.7	-28.5	11.7	2.2	5.0	0.7	0.8	32.68	32.83	32.43	0.06
OCT	29.6	70.2	3.8	13.3	-1.1	43.6	-70.2	23.5	-9.4	51.8	-55.4	20.3	8.6	12.6	1.7	3.4	32.27	32.78	31.84	0.24
NOV	37.7	74.6	3.7	11.3	-6.2	59.0	-72.1	27.9	5.7	64.3	-49.8	26.5	7.7	9.2	5.8	0.7	32.28	32.42	32.15	0.05
DEC	31.8	56.1	7.0	9.3	0.9	43.3	-53.4	22.0	-4.7	47.3	-56.1	24.4	5.3	6.9	2.3	0.1	32.07	32.39	31.76	0.20

HIBERNIA : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1982	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	34.0	73.4	5.5	10.7	0.0	57.2	-56.7	23.6	-7.6	44.3	-70.7	25.7	1.2	3.1	0.0	0.9	32.43	32.83	32.02	0.20
FEB	39.8	49.7	12.3	7.0	4.3	44.1	-47.9	30.3	-7.6	43.6	-49.3	25.7	0.1	0.3	0.0	0.1	32.65	32.73	32.57	0.04
MARCH																				
APRIL	8.9	33.2	0.1	6.8	1.9	32.5	-17.3	8.2	-3.8	10.9	-27.4	6.4								
MAY	10.5	38.6	0.2	7.4	0.7	35.5	-34.7	9.7	-0.4	23.9	-38.6	8.4								
JUNE	8.8	41.7	0.3	6.6	-0.1	24.4	-39.8	8.2	-0.8	25.7	-31.0	7.3								
JULY	11.2	31.9	0.3	7.4	4.6	29.8	-19.8	9.0	4.6	12.8	-25.5	7.6								
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 3	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	12.3	33.0	0.5	7.1	0.3	26.2	-28.4	10.4	-1.8	24.9	-26.2	9.5	0.2	0.6	-0.4	0.3	32.20	32.49	31.97	0.13
FEB	16.0	49.8	0.6	8.9	-5.9	29.9	-47.0	13.5	2.4	28.2	-25.8	10.6	-0.1	0.6	-0.7	0.3	32.28	32.60	31.92	0.16
MARCH	13.7	46.1	0.4	6.7	-3.0	24.3	-44.7	13.6	2.3	19.9	-19.3	7.9	-0.5	-0.3	-0.8	0.1	32.39	32.55	32.29	0.06
APRIL																				
MAY													5.2	6.0	4.2	0.6	32.63	32.80	32.41	0.07
JUNE													7.1	8.9	5.8	0.6	32.54	32.68	32.36	0.04
JULY	12.2	34.6	0.4	6.8	0.6	32.5	-25.3	10.6	1.3	23.7	-25.7	9.0	8.3	8.8	7.8	0.3	32.48	32.54	32.43	0.03
AUGUST	21.3	70.1	3.0	14.3	-6.4	21.2	-67.5	19.3	3.6	35.4	-31.4	15.3								
SEPT	12.9	44.0	0.3	8.4	-3.1	34.3	-42.0	11.8	1.4	37.0	-35.2	9.3								
OCT	13.3	43.0	0.2	8.3	0.4	30.6	-35.8	11.3	-1.6	38.2	-39.0	10.8								
NOV	15.1	38.0	2.5	9.4	7.7	25.9	-14.5	9.3	5.0	35.2	-23.4	12.2								
DEC																				

HIBERNIA : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH													0.1	0.8	-0.8	0.3	32.64	32.88	32.54	0.06
APRIL													0.4	1.2	-0.4	0.4	32.71	32.88	32.59	0.08
MAY	11.1	26.0	0.3	5.6	0.2	21.9	-21.4	9.3	2.7	23.3	-14.5	7.9	2.3	5.6	0.4	1.5	32.71	32.88	32.44	0.13
JUNE	14.0	45.5	0.2	8.7	-0.1	44.7	-33.6	12.1	3.3	35.7	-32.7	10.9	6.3	7.4	4.0	0.7	32.41	32.64	32.22	0.07
JULY	10.6	41.1	0.0	7.2	0.3	27.9	-38.4	9.5	0.3	33.6	-26.5	8.7	8.7	10.9	6.8	1.0	32.32	32.46	32.21	0.04
AUGUST	6.9	23.2	0.1	4.0	0.3	21.0	-20.1	6.2	-0.1	12.6	-16.8	5.0								
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR MIDDLE JAN. 1980 – DEC. 1984 (45 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	20.2	27.5	4.0	4.2	−3.0	19.8	−26.3	12.2	6.5	23.1	−27.2	15.2	0.0	0.2	−0.2	0.1	32.80	32.91	32.61	0.07
FEB	17.1	42.9	1.1	6.1	2.0	28.6	−31.1	11.4	5.1	37.7	−30.1	13.0	−0.6	0.2	−1.1	0.3	32.95	33.32	32.59	0.11
MARCH	14.0	33.1	1.3	5.3	0.9	28.9	−32.9	9.9	2.7	26.6	−25.1	10.9	−0.4	0.0	−0.9	0.2	32.91	33.24	32.49	0.07
APRIL	7.5	20.8	0.3	4.0	3.8	18.2	−6.1	3.8	5.3	17.5	−7.3	3.9	−0.1	0.0	−0.2	0.1	32.55	32.87	32.24	0.13
MAY	13.3	43.8	2.7	3.8	−0.4	20.3	−22.3	10.0	−2.5	15.6	−38.2	9.2	1.4	2.2	0.3	0.5	33.06	33.15	32.97	0.03
JUNE	14.0	50.2	1.0	4.8	0.3	23.8	−26.3	10.5	−3.3	20.0	−44.2	9.9	1.7	2.4	0.2	0.3	32.95	33.10	32.72	0.10
JULY	14.2	33.0	2.4	4.8	−1.2	22.8	−31.4	10.5	−0.7	23.5	−30.9	10.7	1.8	3.0	1.0	0.3	32.88	33.09	32.70	0.09
AUGUST	13.9	28.8	2.0	3.8	0.1	19.7	−28.0	10.2	0.6	23.9	−21.3	10.2	1.4	3.9	−0.4	0.7	33.04	33.11	32.96	0.03
SEPT																				
OCT	22.1	59.2	2.1	7.1	−4.5	34.0	−58.1	16.0	5.8	37.8	−33.1	15.2	7.2	8.7	5.0	0.9	32.08	32.39	31.85	0.08
NOV	24.9	60.0	2.6	7.5	−7.0	33.5	−52.3	19.5	4.0	42.8	−26.9	15.3	5.5	7.3	3.3	1.1	32.16	32.55	31.96	0.16
DEC	27.7	46.2	4.2	6.9	−7.5	31.7	−45.0	18.3	−8.0	42.1	−45.9	19.0	2.5	3.8	1.4	0.6	32.57	32.84	32.33	0.08

Table 11. Monthly statistics of rate, u, v, T and S for the mid-depth layer at Hibernia based on the hourly data.

HIBERNIA : NEAR MIDDLE JAN. 1980 - DEC. 1984 (45 M.) SAMPLE INTERVAL : 3600 SEC.

1 9 8 1	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	26.6	47.2	1.7	5.6	-3.7	32.6	-38.9	18.1	-6.6	33.2	-43.9	18.9	1.9	2.4	1.4	0.2	32.41	32.59	32.26	0.08
FEB	26.3	46.3	3.8	6.2	-7.6	27.7	-32.1	15.2	-12.2	24.7	-46.1	17.1	1.6	1.9	0.7	0.3	32.34	32.51	32.21	0.05
MARCH	15.3	24.1	2.9	2.7	19.2	21.8	-18.1	10.6	5.0	18.7	-14.7	10.0	-0.1	0.1	-0.8	0.1	32.76	32.97	32.54	0.08
APRIL	16.3	42.5	0.8	6.1	-1.7	24.1	-31.5	11.7	2.1	38.0	-29.3	12.5	-0.5	0.1	-1.3	0.4	32.59	32.99	32.00	0.33
MAY	13.9	26.3	1.9	3.7	0.8	24.4	-26.0	10.8	-1.6	21.4	-20.3	9.3	0.8	1.1	-0.4	0.2	32.58	33.18	32.02	0.14
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	18.9	31.6	3.8	4.6	-3.1	26.6	-29.2	13.7	-1.2	29.2	-25.8	13.4	3.6	10.8	-0.3	2.8	32.24	32.59	31.49	0.28
NOV	20.5	46.3	2.0	5.5	-5.8	26.4	-43.5	14.7	6.5	37.6	-26.6	12.6	4.6	8.8	-0.8	2.1	31.98	32.64	31.54	0.25
DEC	21.5	68.5	4.8	7.8	-2.9	28.5	-47.7	15.5	5.7	67.9	-23.2	15.5	3.1	7.9	-0.9	1.9	32.36	32.99	31.68	0.38

HIBERNIA : NEAR MIDDLE JAN. 1980 - DEC. 1984 (45 M.) SAMPLE INTERVAL : 3600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 2	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	22.8	64.1	3.3	8.4	-1.8	32.3	-54.6	16.7	-0.4	45.9	-34.5	17.5	1.6	7.9	-0.6	1.1	32.57	32.98	32.16	0.17
FEB																				
MARCH																				
APRIL	10.9	23.8	1.5	4.4	-0.1	23.7	-22.6	8.6	-3.0	14.2	-20.6	7.5	0.1	0.4	-0.1	0.1	33.26	33.35	33.18	0.04
MAY	11.5	29.9	3.8	4.2	0.5	29.9	-26.3	9.3	1.0	21.6	-20.8	8.0	0.3	2.8	-0.2	0.4	33.22	33.47	33.00	0.06
JUNE	11.7	38.7	0.7	5.1	0.3	21.2	-36.2	9.4	0.4	26.5	-19.1	8.6	1.2	4.4	-0.7	0.8	33.20	33.53	32.83	0.10
JULY	10.2	22.6	2.1	4.3	0.5	17.0	-19.5	8.3	0.0	22.5	-20.3	7.3	1.6	4.4	-0.4	0.9	33.15	33.39	33.00	0.10
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR MIDDLE JAN. 1980 - DEC. 1984 (45 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	14.1	37.4	0.9	5.1	-0.6	21.6	-28.0	11.0	0.4	30.8	-23.0	10.2	0.2	0.7	-0.3	0.3	32.87	32.98	32.77	0.04
FEB	18.4	59.9	3.1	8.0	-5.1	24.9	-55.5	14.3	3.9	32.1	-26.5	12.5	-0.2	0.5	-0.6	0.3	32.94	33.15	32.76	0.09
MARCH	16.4	53.1	2.2	7.9	-1.6	27.0	-49.2	14.3	2.7	27.0	-22.7	10.9	-0.5	-0.2	-0.8	0.2	33.03	33.16	32.97	0.03
APRIL																				
MAY	11.4	24.8	1.0	5.5	-1.7	13.9	-22.2	9.2	1.6	19.4	-17.2	6.4	1.9	4.0	0.9	0.5	33.01	33.06	32.95	0.02
JUNE	12.9	36.4	0.4	6.0	-1.6	23.1	-36.3	10.5	2.3	24.8	-21.5	9.1	3.7	6.1	0.9	1.0	32.91	33.11	32.70	0.05
JULY	12.3	28.2	0.7	5.1	-0.9	25.3	-27.6	9.4	2.5	23.7	-23.6	9.1	8.8	6.4	0.8	0.9	32.86	33.21	32.67	0.05
AUGUST	25.0	40.5	4.0	6.6	-1.9	31.4	-39.7	19.2	-1.8	28.6	-35.0	17.4	4.2	10.3	1.5	1.6	32.81	33.04	32.48	0.09
SEPT	17.1	53.9	0.4	8.8	0.6	52.4	-40.0	14.0	0.6	40.8	-42.8	13.2	5.5	12.8	0.4	3.0	32.67	33.03	32.04	0.17
OCT	15.2	43.2	1.9	6.4	-0.6	34.7	-37.0	12.0	-1.5	31.4	-24.4	11.2	7.1	12.4	-0.5	4.0	32.26	33.09	31.50	0.38
NOV	17.6	52.7	0.6	7.7	-1.7	33.6	-52.6	14.5	-1.0	29.8	-34.3	12.4	4.2	7.6	-0.4	2.1	32.26	33.19	31.80	0.31
DEC	19.2	49.2	3.3.	8.4	-3.6	37.8	-47.9	14.4	-4.2	28.7	-38.9	14.2	1.6	3.5	0.0	1.0	32.49	32.78	32.22	0.14

HIBERNIA : NEAR MIDDLE JAN. 1980 - DEC. 1984 (45 M.) SAMPLE INTERVAL : 3600 SEC.

1984	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	15.4	31.1	3.2	5.5	1.6	22.1	-25.5	10.8	-6.0	18.1	-29.8	10.6	0.5	0.7	0.1	0.1	32.58	32.65	32.51	0.03
FEB													-0.1	0.9	-0.7	0.4	32.51	32.68	32.31	0.07
MARCH													-0.3	0.6	-1.0	0.3	32.45	32.70	32.26	0.10
APRIL													-0.2	0.3	-0.7	0.2	32.51	32.61	32.32	0.06
MAY													0.8	1.1	0.0	0.2	32.60	32.67	32.55	0.03
JUNE													0.6	2.8	-0.2	0.4	32.61	32.73	32.49	0.03
JULY	13.0	44.5	1.1	6.2	1.1	31.6	-36.5	10.8	0.9	36.8	-24.7	9.5	1.2	3.8	-0.7	0.7	32.62	32.97	32.39	0.08
AUGUST	12.2	27.2	0.3	5.6	-0.4	22.6	-27.2	9.7	-0.9	24.2	-22.6	9.3	0.0	1.3	-0.7	0.3	32.78	32.94	32.63	0.06
SEPT	16.4	45.7	1.4	8.9	-1.2	39.3	-42.9	13.0	-0.6	35.5	-41.8	13.4	-0.4	1.1	-1.0	0.3	32.82	33.00	32.66	0.06
OCT	11.0	18.7	3.3	3.4	3.4	14.6	-9.7	6.2	-6.0	9.4	-17.6	6.9	-0.8	-0.1	-1.1	0.3	33.03	33.15	32.84	0.08
NOV																				
DEC																				

HIBERNIA : NEAR BOTTOM JAN. 1980 - DEC. 1984 (75 M.) SAMPLE INTERVAL : 3600 SEC.

1980	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	12.5	26.7	2.5	4.3	-0.2	22.6	-20.5	9.6	-2.1	21.3	-24.3	9.0	-0.8	-0.5	-1.4	0.1	33.69	33.78	33.49	0.05
JUNE	12.1	28.3	3.3	3.6	0.8	22.0	-21.0	9.2	-0.8	16.5	-26.9	8.5	-0.6	-0.4	-0.8	0.1	33.55	33.77	33.10	0.19
JULY	10.9	22.4	0.5	3.5	-0.1	21.8	-20.7	8.2	-0.1	14.1	-21.4	8.0	-0.7	-0.5	-0.9	0.1	33.41	33.75	33.21	0.17
AUGUST	12.0	22.9	1.2	3.1	-0.3	16.4	-20.3	9.0	0.4	17.8	-21.0	8.5	-0.9	-0.9	-1.1	0.03	33.75	33.82	33.69	0.04
SEPT																				
OCT	16.2	30.5	2.7	5.4	0.4	29.3	-26.7	12.2	3.5	29.6	-28.3	11.4	-0.6	0.2	-0.9	0.2	32.99	33.13	32.77	0.06
NOV	17.4	54.8	2.4	5.9	0.3	39.0	-31.0	13.1	2.2	47.3	-26.5	12.7	-0.5	1.4	-0.9	0.4	33.00	33.25	32.71	0.09
DEC	17.3	34.4	1.6	5.0	-1.7	28.5	-29.8	12.0	-3.5	25.3	-33.4	12.8	0.5	2.3	-1.5	1.1	33.16	33.97	32.59	0.36

Table 12. Monthly statistics of the rate, u, v, T and S for the near bottom layer at Hibernia based on the hourly data.

HIBERNIA : NEAR BOTTOM JAN. 1980 – DEC. 1984 (75 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
1981	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	16.8	30.7	0.3	4.8	–1.3	23.0	–38.3	11.9	–2.0	27.3	–34.3	12.5	1.6	2.2	1.1	0.2	32.63	33.07	32.41	0.10
FEB	18.2	39.3	4.7	6.0	–2.6	20.3	–28.7	11.5	–4.2	36.5	–33.3	14.6	1.2	1.9	0.2	0.5	32.61	32.89	32.42	0.11
MARCH	12.5	22.3	5.0	2.5	2.5	17.2	–14.7	9.3	2.4	18.8	–14.0	8.2	–0.2	–0.1	–0.3	0.1	32.60	32.71	32.46	0.06
APRIL	14.8	30.3	1.4	4.9	0.3	23.7	–28.1	11.3	–2.0	26.1	–25.8	10.6	0.0	0.5	–0.6	0.2	32.50	32.70	32.32	0.07
MAY	11.8	29.4	3.8	3.6	2.8	21.6	–29.4	9.3	–1.2	17.8	–19.8	8.0	–0.1	0.6	–0.4	0.2	32.34	32.52	32.17	0.06
JUNE																				
JULY																				
AUGUST	11.2	24.2	0.8	4.9	0.2	21.7	–22.9	9.8	–0.1	19.3	–21.6	7.2	–0.6	–0.4	–0.7	0.1	33.64	33.83	33.51	0.04
SEPT	11.7	37.8	0.4	5.2	1.6	25.7	–32.0	9.3	–2.1	20.2	–32.8	8.3	–0.4	0.0	–0.6	0.1	33.55	33.73	33.42	0.05
OCT	13.1	27.3	2.2	4.1	–0.3	20.3	–22.9	9.6	–1.3	23.5	–23.4	9.8	–0.6	–0.1	–1.1	0.2	33.27	33.70	32.99	0.20
NOV	14.4	32.7	1.3	5.0	–0.7	30.9	–32.5	10.9	2.6	30.2	–24.2	10.3	–0.8	–0.6	–1.2	0.1	33.17	33.56	33.00	0.08
DEC	12.8	37.0	0.2	4.5	0.0	18.0	–21.0	8.7	1.5	36.1	–18.9	10.1	–0.7	–0.6	–1.1	0.1				

HIBERNIA : NEAR BOTTOM JAN. 1980 - DEC. 1984 (75 M.) SAMPLE INTERVAL : 3600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 2	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	15.5	35.5	2.4	5.2	-1.2	24.9	-33.0	10.6	1.9	30.4	-24.8	12.2	-0.5	0.3	-0.9	0.3				
FEB	16.4	31.2	5.6	6.8	-2.0	23.6	-24.0	11.3	8.5	30.4	-10.8	10.7	0.0	0.0	-0.1	0.1				
MARCH																				
APRIL	10.4	21.5	2.3	4.4	-0.2	17.7	-21.0	8.3	-1.9	14.0	-19.3	7.5	0.2	0.5	0.1	0.1				
MAY	10.4	26.6	0.3	4.7	0.3	26.1	-22.7	8.4	1.5	20.1	-19.0	7.5	0.2	0.5	-0.2	0.2	32.88	33.20	32.71	0.15
JUNE	9.7	29.0	1.9	4.4	0.4	21.2	-28.5	7.7	0.3	22.6	-18.4	7.3	-0.1	0.0	-0.4	0.1	33.10	33.18	33.02	0.03
JULY	8.6	20.1	1.1	4.1	0.3	15.6	-14.6	6.9	1.0	17.5	-15.6	6.4	-0.2	0.1	-0.4	0.1	33.07	33.15	33.01	0.03
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR BOTTOM JAN. 1980 - DEC. 1984 (75 M.) SAMPLE INTERVAL : 3600 SEC.

1 9 8 3	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	12.1	32.3	1.4	4.5	-0.5	17.0	-25.0	9.1	3.0	27.5	-16.0	8.7	0.1	0.6	-0.3	0.2	32.93	33.01	32.82	0.03
FEB	15.2	53.8	3.3	7.3	-3.9	21.7	-45.6	11.5	3.9	30.0	-22.1	11.1	-0.3	0.1	-0.6	0.2	32.98	33.19	32.85	0.09
MARCH	14.0	47.1	1.7	7.0	-1.7	24.8	-40.3	11.5	2.4	28.0	-20.1	10.2	-0.5	-0.2	-0.8	0.2	33.06	33.15	33.00	0.03
APRIL																				
MAY	11.7	23.5	1.5	4.3	-0.1	18.2	-21.9	9.2	2.2	17.8	-18.0	8.1	0.3	0.6	-0.1	0.2	33.08	33.25	32.98	0.07
JUNE	11.3	26.3	1.6	4.5	-0.2	19.7	-26.2	9.1	1.7	22.8	-22.1	8.0	0.1	0.3	-0.2	0.1	33.17	33.40	33.04	0.06
JULY	11.5	25.9	1.1	4.8	-0.4	21.3	-22.5	8.9	2.7	25.5	-19.3	8.3	-0.3	0.3	-0.8	0.2	33.18	33.41	33.03	0.06
AUGUST	11.2	26.7	2.4	5.3	-0.6	17.3	-17.7	8.3	-5.9	9.7	-20.1	7.1	-0.1	0.3	-0.4	0.2	33.21	33.27	33.15	0.03
SEPT	12.5	31.1	0.6	5.2	0.7	22.7	-30.2	9.3	-2.0	28.3	-27.3	9.6	-0.3	0.4	-0.7	0.2	33.17	33.26	33.12	0.02
OCT	14.1	33.2	1.8	5.7	1.1	28.1	-33.0	10.0	-2.6	29.5	-23.9	11.1	-0.4	0.1	-1.2	0.2	33.18	33.35	33.10	0.04
NOV	14.2	30.1	1.1	5.7	0.1	26.8	-30.1	10.9	0.2	23.6	-27.5	10.7	-0.7	0.2	-1.3	0.3	33.25	33.42	33.12	0.07
DEC	15.6	41.0	2.5	6.3	-0.3	28.7	-27.5	11.5	-3.7	26.1	-37.4	11.7	-0.3	2.1	-1.1	0.8	33.03	33.24	32.51	0.21

HIBERNIA : NEAR BOTTOM   JAN. 1980 - DEC. 1984   (75 M.)   SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	15.6	15.7	15.5	1.1	6.8	7.0	6.5	0.3	-14.1	-13.9	-14.3	0.4	0.1	0.1	0.1	0.02	32.56	32.58	32.55	0.02
FEB	12.5	28.3	1.0	5.5	0.6	26.1	-23.9	9.6	-2.9	22.0	-26.6	9.3	-0.2	0.7	-0.8	0.3	32.58	32.72	32.41	0.07
MARCH	13.7	35.4	0.5	6.3	0.5	20.0	-33.4	10.2	-4.2	30.9	-32.1	10.3	-0.5	0.4	-1.3	0.3	32.53	32.77	32.30	0.12
APRIL	10.9	28.0	0.4	5.4	2.2	21.2	-25.4	8.7	2.2	19.6	-16.2	7.9	-0.5	0.2	-1.2	0.3	32.60	32.82	32.34	0.09
MAY	11.2	26.9	1.3	5.3	-1.1	20.2	-25.9	9.1	2.9	21.2	-17.4	7.9	-0.7	-0.1	-1.3	0.3	32.75	32.96	32.61	0.07
JUNE	12.2	36.9	0.2	6.6	-0.5	27.4	-29.7	9.8	3.9	36.6	-26.0	9.1	-1.1	-0.2	-1.5	0.2	32.87	33.03	32.61	0.04
JULY	11.1	28.5	0.7	4.8	1.2	25.4	-20.7	9.0	-0.4	22.9	-22.9	8.0	-1.1	-0.5	-1.3	0.1	32.96	33.03	32.82	0.04
AUGUST																				
SEPT																				
OCT																				
NOV	13.9	57.9	0.6	8.8	1.4	30.1	-45.0	11.6	-4.2	22.8	-49.9	10.8	2.4	3.3	1.7	0.4	32.18	32.34	32.00	0.08
DEC	16.2	61.7	0.9	10.4	1.6	31.4	-34.0	13.0	-4.6	26.1	-60.1	13.3	1.5	1.9	0.8	0.3	32.35	32.49	32.24	0.06

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
17.9	72.5	0.0	12.8	–0.2	53.0	–71.6	13.9	–9.0	52.5	–69.8	14.4	4.0	16.5	–2.4	5.3	32.11	33.47	30.72	0.69

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 – DEC. 1984 (100 M.) SAMPLE INTERVAL : 3600 SEC.

RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
14.1	58.0	0.1	7.9	–0.8	34.2	–42.9	8.8	–7.5	31.0	–56.0	11.2	–0.9	1.7	–2.0	0.6	33.15	34.02	32.55	0.26

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 – DEC. 1984 (175 M.) SAMPLE INTERVAL : 3600 SEC.

RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
12.2	55.0	0.1	7.0	0.8	44.7	–30.1	8.1	–6.4	22.5	–55.0	9.4	–0.5	2.9	–1.7	0.6	33.63	34.73	32.96	0.31

Table 13. Overall statistics of rate, u, v, T and S for all three depth levels for the slope area near Hibernia based on the hourly data.

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

1980	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	27.4	59.2	3.6	9.8	-2.3	50.4	-53.3	18.3	-11.7	52.5	-50.7	19.2	6.8	8.0	4.4	1.0	32.59	33.47	31.75	.27
NOV	29.4	72.5	3.5	10.4	-4.6	43.5	-71.6	21.1	-14.0	39.8	-56.5	17.6	3.3	5.0	1.6	0.9	32.79	33.31	32.03	.20
DEC	25.8	39.9	5.6	6.7	-5.5	25.5	-34.0	15.8	-14.4	21.1	-39.8	15.0	2.2	2.6	2.0	0.2	32.83	32.98	32.70	.08

Table 14. Monthly statistics of rate, u, v, T and S for the near surface layer for the slope area near Hibernia based on the hourly data. Note there were not any data for 1981.

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

1 9 8 2	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	23.0	57.6	1.5	12.7	6.8	26.7	-20.6	10.4	-16.8	16.9	-57.5	16.0								
JUNE	14.0	48.0	1.0	9.2	3.4	35.7	-47.3	9.1	-8.3	23.2	-41.8	10.8								
JULY	12.2	39.9	0.1	8.3	4.3	32.2	-26.1	8.1	-7.7	13.2	-37.1	8.5								
AUGUST	18.1	61.2	0.1	13.0	4.0	53.0	-54.6	13.6	-8.9	35.6	-56.4	14.8								
SEPT	17.4	35.7	1.4	8.5	0.6	27.6	-32.8	13.9	-4.2	20.7	-33.1	13.0								
OCT	27.4	47.0	0.7	10.4	6.5	33.8	-28.4	13.7	-22.4	6.6	-46.5	11.2								
NOV	20.2	54.8	0.6	11.3	1.0	44.2	-45.9	16.5	-9.7	29.9	-54.0	13.1								
DEC	24.6	63.4	1.0	11.5	5.8	50.2	-38.7	14.7	-15.5	30.3	-62.3	15.7								

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	27.9	44.1	0.3	9.8	–2.1	26.1	–33.6	14.5	–23.6	–2.4	–44.1	10.1	–.5	–.3	–.8	0.1	32.40	32.57	32.27	0.08
FEB	20.9	58.0	1.8	10.3	–8.1	20.3	–39.8	11.7	–13.0	17.1	–40.3	13.2	–.7	–.2	–1.1	0.2	32.49	32.86	32.18	0.10
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY	18.1	47.4	0.2	11.2	–0.6	29.7	–47.0	11.1	–13.7	16.8	–45.8	11.9								
AUGUST	25.9	49.8	0.5	13.6	–2.8	49.7	–48.5	19.7	–10.8	32.6	–46.6	18.5								
SEPT																				
OCT																				
NOV	31.4	72.1	0.1	16.6	–3.7	41.0	–60.4	19.1	–22.8	27.0	–69.9	19.1	2.0	5.0	–1.6	2.6	31.69	32.04	31.41	0.14
DEC	19.4	51.9	0.5	9.5	–3.9	31.2	–50.5	13.8	–6.4	34.8	–38.1	14.7	–1.8	–1.4	–2.1	0.1				

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 3600 SEC.

1984	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	17.9	34.5	1.1	7.1	-0.3	27.0	-34.5	12.6	-10.1	14.8	-34.2	10.4	-2.1	-2.0	-2.2	0.02				
FEB	15.6	38.7	0.5	7.8	0.5	24.2	-25.6	9.9	-11.4	13.3	-38.7	9.0	-1.2	-.3	-2.4	0.2	31.91	32.15	31.77	0.07
MARCH	6.4	36.7	0.1	9.6	-0.3	23.8	-27.7	5.4	-5.0	8.1	-36.1	8.9	-0.2	0.8	-1.2	0.4	32.64	32.88	32.54	0.06
APRIL	0.9	1.5	0.0	0.4	-0.1	1.4	-1.5	0.6	-0.2	1.4	-1.5	0.7	0.4	1.2	-0.4	0.4	32.71	32.88	32.50	0.06
MAY	0.9	1.5	0.0	0.4	0.1	1.5	-1.5	0.7	-0.2	1.5	-1.5	0.6	2.3	4.8	0.4	1.4	32.80	32.88	32.70	0.03
JUNE	1.0	1.5	0.1	0.4	0.1	1.4	-1.4	0.8	-0.2	1.4	-1.4	0.7	5.5	6.3	3.5	0.4	32.71	32.82	32.60	0.04
JULY	17.7	40.8	0.3	9.2	-1.1	36.2	-35.4	13.9	-5.4	24.8	-36.8	13.2	10.3	13.4	7.4	1.7	31.96	32.30	31.22	0.23
AUGUST	22.1	50.3	0.2	9.4	-0.3	37.3	-40.8	16.4	-4.5	48.8	-44.3	17.0	14.7	16.5	10.8	1.2	31.14	31.65	30.87	0.15
SEPT	21.6	71.7	0.1	11.4	-2.1	34.5	-67.3	16.5	-6.7	32.3	-51.2	16.6	13.2	16.5	10.6	1.3	31.01	31.25	30.76	0.10
OCT	19.8	59.5	0.3	11.3	-3.0	49.5	-47.3	15.7	-5.5	36.7	-46.8	15.3	7.3	12.1	4.2	2.0	31.14	31.64	30.72	0.20
NOV	15.1	57.8	0.6	9.1	-0.2	30.1	-45.0	12.1	-6.5	22.8	-49.9	11.1	2.8	5.2	1.7	0.8	31.94	32.34	31.21	0.30
DEC	16.2	61.7	0.9	10.4	1.7	31.4	-34.0	13.0	-4.6	26.1	-60.1	13.3	1.5	1.9	0.8	0.3	32.35	32.49	32.24	0.32

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 – DEC. 1984 (100 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	14.2	37.6	1.7	5.9	0.3	23.4	-25.1	8.7	-6.6	23.2	-36.0	10.9	-1.2	-0.8	-1.4	0.1	33.24	33.43	33.00	0.07
NOV	15.2	45.5	0.6	6.6	-0.8	33.7	-42.9	10.1	-8.3	31.0	-41.7	10.2	-0.6	1.5	-1.3	0.8	33.29	33.88	32.98	0.10
DEC	14.3	37.6	2.2	5.3	-4.9	20.3	-30.1	9.5	-5.1	27.6	-29.5	9.7	-0.5	1.7	-2.0	0.7	33.30	33.97	32.71	0.17

Table 15. Monthly statistics of the rate, u, v, T and S for the mid-depth layer for the slope area near Hibernia based on the hourly data.

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 - DEC. 1984 (100 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1981	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	14.2	35.6	2.3	5.7	-5.0	20.1	-32.6	9.5	-4.3	19.9	-34.0	10.1	-0.3	0.2	-1.5	0.4	33.25	33.92	32.79	0.21
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 – DEC. 1984 (100 M.) SAMPLE INTERVAL : 3600 SEC.

1982	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	17.9	46.2	1.6	12.4	6.0	25.0	–18.3	8.3	–13.1	14.8	–46.0	14.1	–0.9	0.1	–1.3	0.3	33.05	33.19	32.92	0.06
JUNE	11.9	26.8	1.3	6.0	3.5	19.8	–21.1	6.5	–6.1	8.4	–26.0	7.5	–1.2	0.2	–1.5	0.3	32.98	33.17	32.72	0.07
JULY	9.3	30.5	0.5	5.1	3.3	18.8	–13.7	5.6	–5.7	13.1	–29.5	6.3	–1.2	–0.3	–1.5	0.2	33.12	33.40	32.75	0.14
AUGUST	11.5	27.1	0.2	5.6	3.2	18.6	–12.5	6.2	–8.6	6.7	–25.7	6.4	–1.2	–0.1	–1.6	0.2	33.19	33.54	32.99	0.11
SEPT	9.1	18.6	1.5	4.3	1.6	14.4	–11.5	6.1	–4.9	11.5	–17.3	6.1	–1.2	–0.7	–1.3	0.1	33.25	33.32	33.16	0.03
OCT	17.2	41.4	1.4	7.8	6.9	30.2	–8.9	7.0	–14.3	6.7	–31.0	7.7	–1.1	–0.5	–1.4	0.2	33.53	33.83	33.36	0.10
NOV	14.3	44.5	0.4	8.4	2.3	30.9	–22.5	10.0	–8.2	15.7	–44.3	10.0	–0.7	1.2	–1.4	0.5	33.47	33.81	33.23	0.07
DEC	19.0	56.8	0.4	9.1	1.3	34.2	–38.3	10.4	–14.3	19.8	–54.6	11.4	–0.1	1.1	–1.3	0.6	33.48	33.88	33.25	0.10

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 - DEC. 1984 (100 M.) SAMPLE INTERVAL : 3600 SEC.

1 9 8 3	RATE MEAN	RATE MAX	RATE MIN	RATE STDEV	U-COMPONENT MEAN	U-COMPONENT MAX	U-COMPONENT MIN	U-COMPONENT STDEV	V-COMPONENT MEAN	V-COMPONENT MAX	V-COMPONENT MIN	V-COMPONENT STDEV	TEMPERATURE MEAN	TEMPERATURE MAX	TEMPERATURE MIN	TEMPERATURE STDEV	SALINITY MEAN	SALINITY MAX	SALINITY MIN	SALINITY STDEV
JAN	21.2	50.2	0.6	10.3	-4.2	22.7	-31.8	10.6	-15.5	17.2	-48.7	13.5	-0.3	0.1	-0.8	0.2	33.39	33.75	33.05	0.14
FEB	18.4	46.1	1.0	9.2	-6.0	18.7	-36.8	7.9	-13.8	19.4	-42.4	11.7	-0.7	-0.1	-1.5	0.3	33.36	33.60	33.10	0.08
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY	15.1	33.0	4.5	5.8	-2.3	10.3	-23.2	6.2	-13.7	-1.2	-31.3	5.5	-1.6	-0.9	-1.8	0.2	33.19	33.55	33.08	0.08
AUGUST	15.9	41.5	0.9	7.8	2.8	12.5	-26.8	6.5	-14.2	0.8	-40.8	7.9	-1.6	-1.0	-1.8	0.1	33.18	33.54	33.08	0.07
SEPT	18.0	37.8	1.5	8.3	-3.1	15.4	-26.9	6.1	-16.5	4.2	-37.3	8.7	-1.4	-0.7	-1.7	0.2	33.53	33.77	33.40	0.06
OCT	23.6	58.0	2.5	10.9	-4.3	12.4	-26.8	6.8	-22.0	2.4	-56.0	11.2	-1.1	0.3	-1.6	0.4	33.60	34.02	33.33	0.15
NOV	20.2	53.3	0.5	12.4	-2.2	25.9	-27.1	8.6	-15.9	29.8	-53.2	15.2	-1.3	-0.5	-1.6	0.3	33.34	33.81	33.14	0.17
DEC	14.3	42.9	1.5	6.5	-0.5	28.4	-26.5	9.5	-4.6	28.6	-42.4	11.7	-0.8	1.1	-1.6	0.7	33.02	33.28	32.69	0.15

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 - DEC. 1984 (100 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	12.3	31.0	1.2	5.5	0.4	18.2	-28.8	8.5	-5.1	21.7	-28.2	9.2	-0.4	-0.1	-0.8	0.1	32.92	33.08	32.77	0.06
FEB	12.1	29.8	1.5	5.6	-1.8	15.8	-25.9	7.3	-7.4	28.7	28.7	8.2	-1.2	-0.8	-1.7	0.2	32.89	33.04	32.75	0.05
MARCH	13.1	35.1	1.5	5.7	-2.3	34.1	-29.1	9.5	-5.4	26.7	-26.1	8.9	-0.8	0.3	-1.7	0.5	32.78	33.05	32.55	0.12
APRIL	13.2	40.1	1.1	5.6	-1.2	18.0	-39.4	10.2	-2.4	21.5	-24.8	9.7	-0.1	0.6	-1.0	0.4	32.78	32.97	32.60	0.08
MAY	10.4	35.2	0.6	4.9	-0.6	24.2	-24.1	9.0	-0.4	25.7	-22.0	7.1	-0.2	0.8	-1.1	0.2	32.84	33.03	32.75	0.03
JUNE	12.8	29.5	2.6	4.8	-1.5	15.8	-22.6	9.5	2.1	28.4	-24.2	9.5	-0.2	0.4	-0.9	0.2	32.90	33.13	32.78	0.08
JULY	9.2	25.3	0.1	4.7	-0.8	16.9	-21.6	6.9	-0.5	17.5	-25.3	7.3	-1.1	-0.3	-1.4	0.2	32.85	32.98	32.62	0.07
AUGUST	8.5	23.2	0.2	4.3	0.2	18.4	-21.6	6.9	-0.9	16.4	-21.5	6.5	-1.2	-0.8	-1.4	0.1	32.87	33.07	32.74	0.05
SEPT	10.4	28.3	0.8	4.9	-0.5	27.2	-23.4	8.2	-0.4	19.0	-21.2	8.1	-1.3	-1.1	-1.5	0.1	33.03	33.15	32.90	0.05
OCT	10.6	28.9	0.9	4.5	-0.8	28.8	-26.8	8.4	-0.4	20.7	-17.4	7.9	-0.4	-1.2	-1.6	0.1	33.08	33.21	32.95	0.03
NOV	12.0	35.2	1.7	5.5	-0.2	22.1	-32.1	9.6	0.6	19.0	-32.3	9.0	-1.1	-1.1	-1.7	0.6	33.04	33.21	32.75	0.08
DEC	12.4	30.5	1.1	5.0	0.8	27.9	-21.2	9.9	0.2	16.4	-30.4	9.1	-1.4	1.1	-1.6	0.6	32.95	33.20	32.68	0.11

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 – DEC. 1984 (175 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	11.8	31.1	0.5	5.8	1.5	22.4	-24.0	6.9	-4.7	21.4	-27.7	10.0	-0.1	0.3	-0.5	0.2	33.80	34.02	33.61	0.09
NOV	13.1	41.8	1.2	7.1	1.2	32.7	-27.9	8.5	-8.1	17.7	-41.1	9.1	-0.1	0.5	-0.7	0.1	33.86	34.04	33.61	0.07
DEC	13.2	38.5	1.3	6.5	-5.0	21.0	-28.1	8.7	-5.9	18.9	-36.6	8.9	-0.4	1.3	-0.8	0.2	33.80	34.10	33.65	0.07

Table 16. Monthly statistics of the rate, u, v, T and S for the near bottom layer for the slope area near Hibernia based on the hourly data.

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 - DEC. 1984 (175 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1981	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	13.1	36.6	1.4	7.0	-5.3	18.8	-30.1	8.7	-5.5	17.6	-32.7	9.3	-0.5	-0.1	-0.8	0.1	33.64	33.87	33.44	0.08
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 – DEC. 1984 (175 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1982	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	14.0	35.8	1.4	1.4	3.4	20.0	-13.9	8.4	-8.3	12.1	-33.4	11.4	0.7	1.3	0.1	0.4	33.79	34.00	33.54	0.12
JUNE	11.4	34.3	1.5	5.6	3.5	21.7	-15.7	6.2	-8.0	12.7	-33.9	6.9	0.1	1.4	-0.8	0.4	33.59	33.99	33.33	0.11
JULY	8.5	21.3	0.5	4.1	2.2	18.7	-13.7	5.5	-5.0	12.4	-20.2	5.4	-1.0	0.9	-0.7	0.4	33.72	34.02	33.32	0.19
AUGUST	11.5	27.7	0.2	5.1	4.0	19.5	-13.1	5.9	-8.1	10.8	-25.0	6.5	0.2	0.7	-0.4	0.2	33.80	33.97	33.64	0.06
SEPT	10.2	26.3	0.8	5.0	3.7	17.5	-7.9	5.9	-7.6	3.6	-21.1	4.9	-1.0	0.2	-0.3	0.2	33.74	33.84	33.66	0.04
OCT	15.0	33.6	2.1	6.6	6.0	24.3	-7.2	5.7	-12.0	7.7	-31.8	7.5	-0.6	0.8	-0.9	0.4	33.71	34.13	33.55	0.12
NOV	15.1	53.5	1.4	8.7	5.4	44.7	-24.7	9.6	-10.3	16.1	-43.3	8.8	-0.4	0.6	-0.8	0.2	33.69	34.02	33.45	0.09
DEC	15.8	32.9	1.3	7.7	6.1	32.4	-17.6	8.9	-9.8	13.5	-31.1	9.9	-0.2	0.3	-0.8	0.2	33.61	33.81	33.38	0.12

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 - DEC. 1984 (175 M.) SAMPLE INTERVAL : 3600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	24.1	55.0	3.2	11.3	-0.9	15.8	-19.6	7.5	-20.4	22.1	-55.0	15.4	0.5	1.7	-0.3	0.5	33.87	34.28	33.43	0.21
FEB	16.9	41.8	1.5	8.7	-2.3	22.3	-27.0	7.7	-14.2	20.6	-41.5	9.6	0.4	2.9	-1.2	0.6	33.84	34.63	33.27	0.22
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY													-0.4	0.4	-1.1	0.2	34.28	34.73	34.03	0.14
AUGUST													-0.6	0.1	-1.2	0.3	34.08	34.35	33.85	0.11
SEPT													-0.4	-0.3	-0.6	0.1	34.16	34.22	33.99	0.06
OCT																				
NOV	16.0	45.1	1.2	8.7	0.2	19.2	-19.7	7.4	-12.0	21.5	-44.8	11.5	-0.8	1.0	-1.5	0.6	33.53	34.31	33.17	0.34
DEC	14.0	36.7	1.2	6.4	1.3	24.2	-23.3	8.3	-6.5	22.5	-36.2	11.1	-1.3	-1.2	-1.5	0.1	33.21	33.30	33.10	0.03

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 - DEC. 1984 (175 M.) SAMPLE INTERVAL : 3600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 4	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	11.2	32.8	0.7	6.0	1.3	31.4	-23.7	8.0	-5.5	13.4	-29.8	8.2	-1.3	-0.9	-1.6	0.1	33.12	33.23	33.03	0.04
FEB	10.7	26.5	1.2	5.4	0.7	25.8	-17.3	7.0	-6.1	16.7	26.2	7.6	-1.2	-0.9	-1.7	0.2	33.13	33.31	32.96	0.06
MARCH	8.6	22.2	1.2	4.7	0.2	12.6	-15.1	5.5	-5.9	8.2	-21.2	5.6	-1.3	-1.0	-1.6	0.2	33.20	33.35	33.02	0.06
APRIL																				
MAY																				
JUNE																				
JULY	8.5	22.3	0.5	4.3	-0.3	15.8	-21.7	6.9	-0.9	15.6	-20.7	6.4	-1.2	-1.1	-1.3	0.1	33.37	33.48	33.23	0.04
AUGUST	8.6	22.7	0.8	4.4	0.0	19.4	-21.7	7.0	-1.3	19.8	-21.0	6.5	-1.2	-1.1	-1.3	0.1	33.39	33.46	33.30	0.03
SEPT	9.7	28.4	0.9	5.1	-0.5	24.3	-22.2	7.9	-0.4	18.2	-24.7	7.6	-1.0	-0.8	-1.4	0.1	33.46	33.59	33.29	0.05
OCT	10.2	26.6	0.1	5.2	-0.8	21.1	-24.9	8.2	-1.9	21.8	-23.3	7.8	-1.1	-0.9	-1.4	0.1	33.49	33.60	33.37	0.04
NOV	11.3	28.1	1.0	6.0	-0.8	21.7	-24.1	9.1	-2.6	16.3	-27.0	8.7	-1.3	-1.1	-1.6	0.1	33.44	33.55	33.30	0.06
DEC																				

HIBERNIA : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
11.4	62.5	0.0	10.0	−0.6	50.0	−62.7	10.2	−1.1	50.0	−62.1	11.1	3.6	12.3	−0.9	3.6	32.66	34.31	30.72	0.66

HIBERNIA : NEAR MIDDLE JAN. 1980 – DEC. 1984 (45 M.) SAMPLE INTERVAL : 21600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
9.1	50.9	0.1	7.1	−1.6	22.3	−44.6	7.9	0.4	37.6	−38.2	8.3	1.9	11.9	−1.0	2.5	32.66	33.35	31.62	0.35

HIBERNIA : NEAR BOTTOM JAN. 1980 – DEC. 1984 (75 M.) SAMPLE INTERVAL : 21600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
6.9	44.2	0.1	4.9	−0.1	22.3	−35.7	5.4	0.0	31.7	−29.3	6.5	−0.3	3.1	−1.4	0.7	33.03	33.80	32.01	0.39

Table 17. Overall statistics of rate, u, v, T and S for all three depth levels at Hibernia based on the filtered data.

HIBERNIA : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

1980	RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB	13.7	34.4	1.1	9.2	−1.0	15.1	−27.6	9.3	4.4	33.0	−19.8	13.0	−0.6	0.2	−0.9	0.3	32.92	33.07	32.73	0.09
MARCH	15.0	40.5	0.9	9.1	−1.7	12.0	−22.3	7.1	4.5	39.7	−32.0	15.4	−0.4	0.0	−0.8	0.2	32.89	33.02	32.77	0.05
APRIL	1.1	14.4	7.5	2.5	−7.8	−6.1	−9.0	1.2	−3.2	8.9	−11.2	8.3	−0.1	−0.1	−0.1	0.01	32.92	32.93	32.91	0.01
MAY	8.4	18.9	1.5	4.5	−1.7	12.1	−14.5	6.3	−4.4	4.7	−18.4	5.4	2.6	3.3	2.0	0.4	34.20	34.29	34.14	0.04
JUNE	7.9	20.1	0.9	4.5	0.8	14.7	−16.9	4.2	−6.6	1.2	−16.9	4.2	5.3	7.5	3.3	1.2	34.22	34.31	34.01	0.07
JULY	5.7	25.6	0.6	4.5	0.3	8.2	−9.6	4.0	−3.4	5.4	−25.1	5.0	8.5	10.4	7.2	1.0	33.84	34.14	33.71	0.13
AUGUST	9.3	29.8	0.7	6.2	−2.1	28.1	−28.2	8.9	−1.0	21.9	−18.9	6.5	11.2	11.8	10.2	0.3	33.58	33.76	33.47	0.07
SEPT																				
OCT	9.3	29.8	0.7	6.2	−4.0	26.3	−46.7	12.2	4.2	26.7	−28.2	10.1	7.6	8.4	6.2	0.6	32.65	32.82	32.54	0.06
NOV	19.7	54.3	1.7	11.6	−7.9	24.3	−54.0	17.2	5.3	33.7	−23.3	11.8	5.2	6.7	3.3	1.0	32.56	32.72	32.47	0.06
DEC	22.6	50.1	3.2	9.6	0.4	33.9	−33.0	15.4	−12.1	35.4	−40.6	15.0	2.5	3.5	1.5	0.6	32.65	32.72	32.51	0.04

Table 18. Monthly statistics of rate, u, v, T and S for the near surface layer at Hibernia based on the filtered data.

HIBERNIA : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

1981	RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	19.3	43.1	2.0	9.1	6.9	33.7	−18.2	11.8	−10.9	15.6	−38.5	12.3	1.9	2.4	1.6	0.2	32.54	32.70	32.47	0.06
FEB	20.9	38.4	7.8	8.6	0.8	23.4	−26.6	12.0	−17.3	−2.4	−35.2	8.2	1.6	2.0	1.0	0.2	32.48	32.54	32.44	0.03
MARCH	12.8	23.0	2.0	6.0	0.6	18.6	−11.4	8.6	1.1	17.2	−22.3	11.4	0.1	0.2	0.0	0.1	32.76	32.83	32.69	0.04
APRIL	12.6	29.2	2.0	6.7	1.2	26.2	−24.3	10.0	−3.8	21.3	−22.8	9.4	0.6	1.2	0.1	0.3	32.73	32.87	32.63	0.05
MAY	4.8	11.1	0.3	2.3	0.7	5.7	−4.7	2.4	−2.7	7.3	−11.1	3.8	2.3	3.6	1.1	0.7	32.68	32.73	32.65	0.02
JUNE																				
JULY	6.8	19.2	0.8	3.6	−0.2	9.5	−12.0	4.0	5.5	18.7	−0.1	3.7	−0.2	0.2	−0.5	0.2	30.88	30.96	30.72	0.05
AUGUST	4.6	13.4	0.3	3.2	0.5	6.2	−4.6	2.3	3.1	13.0	−6.4	4.0	0.5	1.4	−0.6	0.8	31.97	32.80	30.81	0.94
SEPT	7.1	16.1	0.6	4.1	0.4	10.0	−13.2	4.1	−1.0	15.0	−15.1	7.1	2.3	4.2	1.1	0.7	32.68	32.76	32.56	0.05
OCT	18.8	59.2	0.9	12.7	−1.5	28.2	−50.0	14.9	−9.3	40.9	−46.0	14.4	8.7	12.3	2.1	3.3	32.27	32.68	31.88	0.23
NOV	23.8	63.3	0.6	13.0	−6.0	50.0	−62.7	19.8	5.8	50.0	−37.8	16.7	7.7	8.9	5.9	0.7	32.28	32.39	32.19	0.05
DEC	19.9	51.5	2.1	11.3	1.0	31.9	−38.2	15.1	−4.8	36.9	−49.3	16.6	5.3	6.9	2.6	1.4	32.07	32.35	31.78	0.19

HIBERNIA : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 2	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	25.0	65.5	2.1	13.7	0.0	43.7	−46.0	17.3	−7.7	35.8	−62.1	21.4	1.2	2.9	0.0	0.9	32.49	32.79	32.07	0.19
FEB	20.0	38.4	6.7	9.9	2.4	36.7	−17.1	19.6	−5.2	6.8	−21.0	11.1	0.1	0.2	0.1	0.1	32.65	32.69	32.63	0.02
MARCH																				
APRIL	6.1	22.4	0.4	4.5	1.9	22.0	−3.5	5.1	−3.7	2.2	−11.6	3.8								
MAY	6.3	22.6	0.5	5.2	0.6	16.0	−17.6	6.2	−0.6	8.8	−17.9	5.3								
JUNE	5.2	17.8	0.3	3.6	0.0	13.1	−16.8	4.8	−0.8	10.4	−13.6	4.0								
JULY	7.8	18.2	0.2	4.7	4.7	16.7	−3.8	4.9	−4.9	1.9	−10.0	3.6								
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

1983	RATE MEAN	RATE MAX	RATE MIN	RATE STDEV	U-COMPONENT MEAN	U-COMPONENT MAX	U-COMPONENT MIN	U-COMPONENT STDEV	V-COMPONENT MEAN	V-COMPONENT MAX	V-COMPONENT MIN	V-COMPONENT STDEV	TEMPERATURE MEAN	TEMPERATURE MAX	TEMPERATURE MIN	TEMPERATURE STDEV	SALINITY MEAN	SALINITY MAX	SALINITY MIN	SALINITY STDEV
JAN	7.1	16.3	1.3	4.2	0.3	14.7	-8.4	4.9	-1.8	11.3	-16.2	6.6	0.2	0.6	-0.2	0.3	32.19	32.45	32.09	0.12
FEB	12.8	44.1	2.0	7.5	-5.9	16.6	-40.5	10.4	2.4	17.8	-19.4	8.6	-0.1	0.4	-0.7	0.3	32.28	32.57	32.05	0.16
MARCH	10.1	39.0	0.9	8.6	-3.1	14.4	-38.0	11.2	2.4	13.2	-9.6	6.0	-0.5	-0.3	-0.8	0.1	32.39	32.52	32.32	0.05
APRIL																				
MAY													5.2	5.9	4.3	0.5	32.63	32.76	32.53	0.06
JUNE													7.1	8.3	5.9	0.6	32.54	32.65	32.48	0.04
JULY	4.7	22.6	0.2	3.7	0.7	22.5	-5.8	4.6	1.4	11.5	-8.0	3.6	8.3	8.3	8.2	0.02	32.48	32.48	32.48	0.01
AUGUST	10.0	32.7	0.3	9.6	-6.5	3.7	-28.0	9.3	4.5	18.4	-6.9	6.7								
SEPT	6.4	26.6	0.3	5.3	-3.2	12.1	-25.4	6.4	1.4	14.9	-11.1	4.1								
OCT	9.3	28.6	1.3	5.1	0.5	16.1	-17.1	7.4	-1.6	25.6	-18.9	7.5								
NOV	11.5	24.1	5.5	4.9	7.8	12.7	0.4	4.3	4.2	24.1	-2.7	7.9								
DEC																				

HIBERNIA : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

1984	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH													0.1	0.7	-0.5	0.2	32.64	32.78	32.56	0.05
APRIL													0.4	1.2	-0.2	0.4	32.71	32.85	32.62	0.08
MAY	4.9	9.9	1.2	1.8	0.3	9.6	-7.2	3.8	2.8	6.1	-2.8	2.3	2.4	4.8	0.6	1.5	32.71	32.84	32.49	0.13
JUNE	5.7	18.4	0.5	3.0	-0.1	18.1	-7.3	4.3	3.3	14.0	-4.3	3.5	6.3	7.3	4.9	0.7	32.41	32.55	32.31	0.07
JULY	3.2	9.6	0.1	2.1	0.2	9.0	-8.7	2.8	0.4	6.6	-9.3	2.5	8.7	10.7	7.2	1.0	32.32	32.36	32.24	0.03
AUGUST	2.3	6.2	0.3	1.5	0.3	5.8	-5.2	2.4	0.0	3.1	-2.6	1.3								
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR MIDDLE JAN. 1980 – DEC. 1984 (45 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB	10.8	26.9	1.4	6.8	2.0	18.3	-11.7	6.8	5.1	25.7	-10.5	9.4	-0.6	0.0	-0.9	0.3	32.95	33.13	32.73	0.10
MARCH	10.4	23.4	0.4	4.9	0.9	20.5	-21.5	7.1	2.7	21.0	-16.2	8.7	-0.4	0.0	-0.8	0.2	32.91	33.04	32.72	0.06
APRIL	6.5	10.9	2.5	2.5	3.7	7.8	1.2	1.8	5.2	8.7	1.9	1.9	-0.1	0.0	-0.2	0.04	32.56	32.74	32.42	0.10
MAY	7.1	13.5	1.6	3.3	-0.4	11.2	-10.3	5.5	-2.5	10.3	-11.6	5.1	1.4	2.0	0.7	0.4	33.06	33.11	33.03	0.02
JUNE	5.8	14.2	0.7	3.1	0.3	10.6	-8.0	4.0	-3.3	8.4	-14.2	4.1	1.7	2.1	1.2	0.2	32.95	33.06	32.80	0.10
JULY	3.2	12.7	0.3	2.1	-1.2	4.8	-10.6	2.7	-0.8	4.8	-8.5	2.3	1.8	2.6	1.5	0.2	32.88	33.05	32.80	0.09
AUGUST	4.9	20.4	0.2	4.0	0.1	20.2	-16.4	5.7	-0.6	8.9	-8.7	2.7	1.4	2.8	0.3	0.6	33.04	33.08	32.98	0.02
SEPT																				
OCT	13.8	37.5	1.3	7.2	-4.7	18.0	-36.9	9.7	5.8	24.3	-24.8	9.7	7.2	8.6	4.9	0.8	32.08	32.21	31.93	0.07
NOV	17.2	45.9	2.8	9.3	-6.9	20.6	-40.8	14.4	4.0	30.4	-20.8	10.7	5.5	7.2	3.5	1.1	32.16	32.47	31.98	0.15
DEC	19.0	38.2	1.4	7.9	-7.6	19.6	-33.5	13.2	-8.2	19.3	-38.2	11.3	2.5	3.7	1.4	0.6	32.57	32.71	32.40	0.06

Table 19. Monthly statistics of rate, u, v, T and S for the mid-depth layer at Hibernia based on the filtered data.

HIBERNIA : NEAR MIDDLE JAN. 1980 – DEC. 1984 (45 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1981	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	15.1	32.0	1.2	7.7	-3.7	23.3	-23.1	11.4	-6.6	19.4	-28.0	10.1	1.9	2.4	1.6	0.2	32.41	32.58	32.31	0.07
FEB	15.8	27.3	4.6	7.2	-7.3	3.1	-25.0	8.3	-11.9	-2.2	-26.9	6.1	1.6	2.0	1.0	0.2	32.34	32.41	32.28	0.03
MARCH	10.1	16.6	0.7	4.0	1.7	13.0	-11.1	6.1	4.8	15.2	-10.8	7.6	-0.1	0.1	-0.3	0.1	32.76	32.89	32.64	0.06
APRIL	9.6	25.0	0.3	6.2	-1.7	18.9	-20.1	7.1	2.2	19.9	-17.1	8.6	-0.4	0.0	-0.8	0.2	32.58	33.00	32.06	0.33
MAY	4.4	10.5	0.7	2.1	0.8	6.9	-6.6	3.0	-1.5	5.4	-10.2	3.4	0.8	0.9	0.6	0.1	32.58	32.68	32.17	0.10
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	9.1	26.4	0.2	5.7	-3.2	7.0	-17.1	5.7	-1.1	25.3	-17.3	8.5	3.6	8.6	0.2	2.5	32.24	32.51	31.77	0.24
NOV	13.2	29.1	1.0	5.9	-5.7	21.1	-22.5	8.9	6.4	23.0	-11.2	7.5	4.6	8.3	0.0	1.9	31.98	32.57	31.62	0.21
DEC	12.8	41.5	1.6	8.2	-2.9	11.6	-26.2	9.2	5.8	37.6	-13.1	10.3	3.1	6.0	-0.1	1.7	32.36	32.86	31.73	0.36

HIBERNIA : NEAR MIDDLE JAN. 1980 - DEC. 1984 (45 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1982	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	12.5	34.3	0.9	7.5	-1.4	19.5	-20.0	8.3	-0.4	27.1	-30.2	11.9	1.6	3.8	-0.2	0.8	32.57	32.86	32.32	0.13
FEB																				
MARCH																				
APRIL	5.4	13.7	0.1	3.0	-0.1	12.3	-5.3	3.8	-2.8	3.7	-10.3	4.0	0.1	0.3	-0.1	0.1	33.26	33.33	33.22	0.03
MAY	5.3	15.0	0.7	3.3	0.5	12.4	-8.9	4.3	1.0	11.4	-8.4	4.3	0.3	1.5	0.0	0.3	33.21	33.35	33.03	0.04
JUNE	5.7	14.1	0.7	2.6	0.2	9.2	-10.3	4.2	0.4	13.7	-7.8	4.6	1.2	2.8	-0.2	0.6	33.20	33.31	33.10	0.05
JULY	4.7	7.3	1.6	1.6	0.8	7.3	-6.5	3.6	0.0	6.3	-5.4	3.4	1.6	2.8	0.7	0.6	33.15	33.28	33.08	0.05
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR MIDDLE JAN. 1980 – DEC. 1984 (45 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	7.0	18.2	1.5	3.6	-0.4	8.9	-9.7	4.3	0.6	17.4	-13.1	6.6	0.2	0.5	-0.2	0.3	32.87	32.94	32.80	0.04
FEB	13.3	50.9	1.4	8.0	-5.0	13.7	-44.6	10.5	3.9	24.5	-16.1	9.6	-0.2	0.4	-0.6	0.2	32.94	33.15	32.79	0.09
MARCH	11.7	41.9	0.8	8.8	-1.6	13.3	-39.1	11.3	2.8	19.8	-13.0	8.7	-0.5	-0.2	-0.7	0.2	33.03	33.13	32.99	0.03
APRIL																				
MAY	4.0	6.7	1.3	1.6	-1.1	0.9	-3.3	1.2	2.3	6.5	-3.4	3.4	1.9	2.3	1.5	0.3	33.00	33.03	32.98	0.02
JUNE	4.7	9.5	0.5	2.0	-1.6	5.3	-9.0	3.2	2.3	8.4	-4.5	2.9	3.7	4.5	2.4	0.4	32.91	32.98	32.84	0.03
JULY	5.5	14.4	0.3	3.6	-0.9	4.0	-7.6	2.8	2.6	14.3	-7.9	5.1	3.8	4.9	2.8	0.5	32.86	32.91	32.81	0.02
AUGUST	4.5	14.9	0.3	4.6	-2.1	1.6	-7.3	2.7	-2.0	2.2	-13.8	5.2	4.2	6.0	3.7	0.6	32.81	32.85	32.74	0.03
SEPT	5.9	15.0	0.8	2.9	0.6	11.0	-11.3	4.6	0.7	14.7	-9.1	4.6	5.5	10.4	1.5	2.5	32.67	32.88	32.31	0.12
OCT	8.9	22.7	1.6	4.4	-0.6	16.9	-15.7	6.5	-1.5	20.1	-13.3	7.4	7.1	11.9	-0.8	3.7	32.26	32.98	31.72	0.32
NOV	12.8	40.7	1.3	6.8	-1.6	19.7	-40.6	11.0	-0.8	19.4	-20.1	9.3	4.2	7.2	-0.3	2.0	32.27	32.96	31.87	0.29
DEC	14.1	43.4	0.8	8.6	-3.0	14.1	-42.3	10.1	-4.2	19.3	-26.2	11.6	1.6	3.5	0.0	1.0	32.49	32.74	32.25	0.14

HIBERNIA : NEAR MIDDLE JAN. 1980 - DEC. 1984 (45 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	7.5	19.3	0.3	5.2	1.5	8.3	-6.3	3.4	-6.0	3.1	-18.7	5.9	0.5	0.6	0.4	0.1	32.58	32.63	32.54	0.02
FEB													-0.1	0.8	-0.7	0.4	32.51	32.63	32.36	0.07
MARCH													-0.3	0.6	-1.0	0.3	32.45	32.66	32.29	0.09
APRIL													-0.2	0.3	-0.5	0.2	32.51	32.59	32.35	0.07
MAY													0.8	1.0	0.6	0.1	32.60	32.64	32.58	0.02
JUNE													0.6	1.9	0.2	0.3	32.61	32.63	32.57	0.01
JULY	3.5	10.4	0.9	2.2	1.2	7.7	-7.7	2.8	0.8	10.2	-6.1	2.6	1.2	2.1	-0.1	0.4	32.61	32.83	32.54	0.07
AUGUST	2.8	8.0	0.1	1.5	-0.4	4.5	-6.1	2.1	-0.8	7.2	-5.6	2.2	0.0	0.5	-0.5	0.2	32.78	32.87	32.72	0.04
SEPT	5.7	20.3	0.4	3.8	-1.3	8.9	-14.6	4.1	-0.5	14.1	-11.8	5.3	-0.4	0.3	-0.9	0.3	32.82	32.94	32.72	0.05
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR BOTTOM JAN. 1980 – DEC. 1984 (75 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	5.2	12.5	1.1	2.5	-0.4	6.4	-9.2	3.8	-2.1	5.7	-8.4	3.8	-0.8	-0.5	-1.1	0.1	33.69	33.75	33.63	0.04
JUNE	3.7	8.3	0.5	2.1	0.8	7.6	-6.9	2.9	-0.8	5.8	-7.6	2.8	-0.6	-0.5	-0.7	0.1	33.55	33.73	33.22	0.19
JULY	2.9	8.1	0.3	2.0	-0.1	7.5	-6.4	2.3	-0.1	8.1	-7.1	2.6	-0.7	-0.6	-0.9	0.1	33.41	33.74	33.26	0.17
AUGUST	4.6	14.1	0.3	3.3	-0.3	14.1	-13.5	5.0	0.4	7.2	-8.1	2.6	-0.9	-0.9	-1.0	0.03	33.75	33.80	33.67	0.04
SEPT																				
OCT	7.9	22.0	0.3	3.9	0.4	13.4	-12.5	5.4	3.3	21.8	-12.6	6.2	-0.6	-0.2	-0.9	0.2	32.99	33.06	32.92	0.03
NOV	10.6	34.2	1.2	5.9	0.2	15.5	-16.9	7.4	2.3	31.7	-12.8	9.3	-0.5	0.3	-0.9	0.3	33.00	33.15	32.73	0.08
DEC	9.8	23.9	0.3	5.2	-1.8	14.0	-15.7	8.0	-3.7	11.1	-22.7	6.6	0.5	2.1	-1.3	1.1	33.16	33.69	32.66	0.33

Table 20. Monthly statistics of rate, u, v, T and S for the near bottom layer at Hibernia based on the filtered data.

HIBERNIA : NEAR BOTTOM JAN. 1980 - DEC. 1984 (75 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1981	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	9.3	22.0	0.2	5.1	-1.4	14.9	-21.3	8.1	-2.0	13.6	-16.9	6.5	1.6	2.2	1.3	0.2	32.63	32.79	32.49	0.09
FEB	7.9	23.0	0.5	5.5	-1.9	9.6	-15.6	5.7	-3.7	10.3	-16.9	6.6	1.2	1.7	0.2	0.4	32.61	32.85	32.47	0.10
MARCH	7.0	12.3	1.2	3.3	2.2	11.2	-8.5	4.9	2.2	10.0	-7.8	5.3	-0.2	-0.1	-0.3	0.1	32.60	32.65	32.52	0.04
APRIL	8.0	19.3	0.7	4.8	0.4	13.6	-15.2	6.0	-2.0	17.3	-18.6	7.0	0.0	0.4	-0.6	0.2	32.50	32.67	32.41	0.05
MAY	3.8	9.1	0.6	2.0	0.2	7.2	-5.5	2.7	-1.2	5.1	-8.4	3.1	0.1	0.4	-0.2	0.2	32.34	32.42	32.25	0.05
JUNE																				
JULY																				
AUGUST	2.5	5.7	0.7	1.2	0.5	4.2	-4.0	2.0	0.0	5.6	-3.7	1.9	-0.6	-0.6	-0.7	0.03	33.64	33.68	33.58	0.02
SEPT	6.5	15.3	0.9	3.3	1.6	8.7	-7.9	3.3	-2.1	10.9	-15.3	6.0	-0.4	-0.2	-0.6	0.1	33.55	33.64	33.48	0.03
OCT	6.7	21.8	0.5	4.4	-0.4	8.3	-14.2	4.4	-1.2	21.3	-15.2	6.6	-0.6	-0.2	-0.9	0.2	33.27	33.65	33.05	0.20
NOV	6.6	15.7	0.6	3.5	-0.7	9.8	-14.7	5.1	2.7	11.9	-9.8	4.8	-0.8	-0.6	-1.0	0.1	33.17	33.34	33.05	0.07
DEC	5.8	31.9	0.2	5.4	0.0	9.1	-10.4	3.9	1.5	31.5	-9.7	6.7	-0.7	-0.6	-0.8	0.1				

HIBERNIA : NEAR BOTTOM JAN. 1980 - DEC. 1984 (75 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1982	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	11.3	24.6	0.9	5.9	-1.2	14.7	-23.6	7.8	1.8	22.5	-20.7	9.9	-0.5	0.2	-0.9	0.3				
FEB	11.8	22.8	5.4	5.1	-1.9	13.8	-9.2	7.4	0.8	21.4	0.0	6.4	0.0	0.0	-0.1	0.03				
MARCH																				
APRIL	5.1	9.5	0.5	2.4	-0.3	8.8	-6.2	3.3	-1.7	6.3	-9.3	4.3	0.2	0.3	0.2	0.03	32.82	32.87	32.77	0.02
MAY	5.4	17.3	0.4	3.5	0.3	14.5	-7.9	4.4	1.5	12.3	-9.2	4.5	0.2	0.4	-0.2	0.2	32.88	33.18	32.76	0.15
JUNE	4.8	14.8	0.3	2.5	0.4	7.7	-8.6	3.3	0.4	14.8	-7.6	4.3	-0.1	0.0	-0.4	0.1	33.10	33.16	33.04	0.02
JULY	5.2	8.6	2.0	1.9	0.4	7.8	-5.9	4.0	0.9	7.7	-5.3	3.9	-0.2	0.0	-0.4	0.1	33.07	33.10	33.03	0.02
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

HIBERNIA : NEAR BOTTOM JAN. 1980 - DEC. 1984 (75 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	7.0	18.6	0.3	3.6	-0.4	8.7	-10.6	4.3	3.0	18.6	-8.6	5.9	0.1	0.4	-0.2	0.2	32.93	32.96	32.87	0.02
FEB	11.5	44.2	2.6	6.8	-4.0	11.2	-35.7	8.6	3.9	26.0	-14.6	8.6	-0.3	0.0	-0.6	0.2	32.98	33.18	32.89	0.09
MARCH	10.4	36.5	0.5	7.4	-1.6	12.4	-32.7	9.2	2.4	20.9	-10.9	8.4	-0.5	-0.2	-0.8	0.2	33.06	33.13	33.01	0.03
APRIL																				
MAY	4.7	9.5	0.2	2.0	-0.2	8.4	-5.0	3.2	2.4	7.8	-4.8	3.3	0.3	0.6	0.0	0.2	33.07	33.22	33.00	0.07
JUNE	4.2	9.2	0.1	1.9	-0.2	5.1	-8.4	2.7	1.7	8.2	-7.0	3.3	0.1	0.2	-0.2	0.1	33.17	33.24	33.11	0.03
JULY	4.9	12.1	0.4	3.1	-0.4	6.1	-7.4	2.5	2.7	12.1	-5.7	4.4	-0.3	0.0	-0.7	0.2	33.18	33.30	33.11	0.05
AUGUST	6.4	9.3	4.2	1.9	-0.7	1.7	-4.1	1.7	-6.1	-3.8	-8.7	1.7	-0.1	0.3	-0.3	0.2	33.20	33.24	33.18	0.02
SEPT	6.3	18.7	0.2	3.4	0.7	9.4	-5.7	3.3	-2.0	18.7	-12.6	6.0	-0.3	0.3	-0.7	0.2	33.19	33.29	33.13	0.04
OCT	9.0	23.9	0.7	4.4	1.1	16.3	-13.2	5.4	-2.6	19.6	-16.8	8.0	-0.4	0.0	-1.2	0.2	33.19	33.29	33.13	0.04
NOV	9.1	22.2	1.4	5.2	0.2	20.7	-15.9	7.2	0.4	17.3	-17.3	7.7	-0.7	0.1	-1.3	0.3	33.25	33.38	33.15	0.07
DEC	10.3	25.5	0.7	6.3	-0.4	22.3	-13.8	7.4	-3.9	12.5	-24.4	8.8	-0.3	1.3	-1.1	0.6	33.03	33.23	32.59	0.16

HIBERNIA : NEAR BOTTOM JAN. 1980 – DEC. 1984 (75 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB	7.2	17.0	1.1	3.4	0.5	13.7	-9.4	4.6	-2.8	9.3	-16.8	5.9	-0.2	0.3	-0.7	0.3	32.58	32.69	32.44	0.06
MARCH	9.9	24.6	0.8	5.4	0.6	14.3	-24.3	6.7	-4.2	22.1	-20.4	8.1	-0.5	0.5	-1.2	0.3	32.53	32.73	32.32	0.11
APRIL	7.5	16.0	1.1	3.8	2.2	9.9	-11.5	5.1	2.4	13.7	-8.4	6.0	-0.5	0.1	-1.1	0.3	32.60	32.73	32.39	0.07
MAY	5.7	10.2	0.9	2.3	-1.0	8.0	-8.3	3.9	2.9	7.0	-6.1	3.6	-0.7	-0.3	-1.0	0.2	32.75	32.83	32.71	0.04
JUNE	5.9	19.1	0.3	3.5	-0.4	9.6	-7.3	3.6	3.9	18.8	-2.8	4.3	-1.1	-0.7	-1.4	0.2	32.87	32.96	32.72	0.06
JULY	3.5	9.8	0.5	1.8	1.1	7.5	-4.9	2.7	-0.4	6.3	-6.8	2.7	-1.1	-0.8	-1.2	0.1	32.96	33.02	32.88	0.03
AUGUST																				
SEPT																				
OCT																				
NOV	8.4	26.4	0.8	4.5	1.7	14.2	-20.8	6.7	-3.8	8.1	-16.3	5.5	2.4	3.1	1.9	0.4	32.18	32.28	32.01	0.08
DEC	9.6	32.7	2.4	7.0	1.8	11.8	-19.2	7.0	-5.6	4.1	-29.3	7.8	1.7	1.9	1.2	0.2	32.32	32.42	32.25	0.03

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
14.1	40.4	0.0	8.8	-0.3	37.4	-40.2	8.6	-10.5	26.9	-46.9	9.6	4.0	16.3	-2.1	5.4	32.11	33.38	30.74	0.69

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 - DEC. 1984 (100 M.) SAMPLE INTERVAL : 21600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
10.9	55.8	0.0	7.7	-0.7	20.5	-24.7	5.7	-7.6	15.8	-53.4	9.4	-0.9	1.2	-1.8	0.6	33.15	33.98	32.57	0.26

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 - DEC. 1984 (175 M.) SAMPLE INTERVAL : 21600 SEC.

RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
9.1	44.8	0.1	6.2	0.7	22.8	-17.5	5.0	-6.5	14.4	-44.1	7.3	-0.5	2.7	-1.7	0.6	33.63	34.66	32.98	0.31

Table 21. Overall statistics of rate, u, v, T and S for all three depth levels for the slope area near Hibernia based on the filtered data.

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 – DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	14.3	40.5	1.0	9.9	-2.6	-11.7	-29.0	7.4	-11.7	5.4	-36.2	10.3	6.8	7.9	4.5	1.0	32.61	33.38	32.26	0.25
NOV	20.4	41.4	2.3	8.9	-4.6	23.9	-40.2	13.3	-14.0	17.3	-39.5	10.1	3.3	5.0	1.8	0.9	32.79	33.21	32.31	0.19
DEC	15.1	22.5	4.7	6.0	-6.7	1.3	-14.4	5.4	-12.8	-3.0	-21.2	5.4	2.2	2.4	2.1	0.1	32.84	32.96	32.75	0.07

Table 22. Monthly statistics of rate, u, v, T and S for the near surface layer for the slope area near Hibernia based on the filtered data. Note there were not any data for 1981.

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 2	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	18.7	45.2	5.1	13.3	6.5	14.9	2.0	3.4	-16.9	-2.4	-45.1	13.7								
JUNE	11.6	24.4	1.0	6.3	3.4	17.5	-21.3	5.7	-8.3	9.5	-24.2	7.9								
JULY	9.5	18.4	0.4	4.7	4.3	15.9	-7.8	3.7	-7.8	0.4	-17.2	4.3								
AUGUST	10.7	26.5	0.8	6.0	4.1	14.9	-6.4	3.9	-9.0	3.1	-26.4	6.2								
SEPT	6.1	13.0	1.5	3.2	0.3	6.7	-4.5	4.0	-4.3	0.3	-11.4	3.8								
OCT	24.6	37.2	10.9	6.1	6.4	25.0	-11.7	8.3	-22.4	-9.3	-35.2	5.6								
NOV	13.7	25.9	2.8	5.8	1.1	23.4	-19.6	9.4	-9.7	3.2	-23.6	6.4								
DEC	21.0	43.8	4.5	10.1	5.7	37.4	-18.6	10.3	-15.7	24.2	-39.0	12.6								

GRAND BANK SLOPE : NEAR SURFACE JAN. 1980 - DEC. 1984 (20 M.) SAMPLE INTERVAL : 21600 SEC.

1983	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	26.8	43.8	11.0	9.1	-1.8	11.7	-30.5	12.6	-23.8	-9.5	-43.8	8.8	-0.5	0.3	-0.6	0.1	32.40	32.54	32.29	0.08
FEB	19.5	40.3	0.2	9.6	-0.2	8.4	-37.5	9.8	-13.1	13.9	-36.2	11.7	-0.7	-0.2	-1.1	0.2	32.49	32.76	32.20	0.09
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY	14.8	30.9	0.1	6.0	-0.6	23.2	-12.8	5.7	-13.6	-0.1	-28.3	5.7								
AUGUST	12.7	18.5	1.9	3.8	-2.6	8.1	-14.7	4.1	-10.9	10.2	-17.2	5.9								
SEPT																				
OCT																				
NOV	26.5	40.4	2.1	11.6	-3.1	20.1	-29.8	11.5	-22.9	2.1	-46.9	13.1	2.0	4.9	-1.6	2.6	31.68	31.91	31.47	0.11
DEC	13.4	34.4	0.6	7.8	-4.0	8.6	-30.8	8.6	-6.5	16.6	-26.5	10.4	-1.8	-1.5	-2.0	0.1				

GRAND BANK SLOPE : NEAR SURFACE   JAN. 1980 - DEC. 1984   (20 M.)   SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	14.1	29.8	2.7	5.9	-0.3	12.7	-29.1	8.9	-10.3	3.6	-22.4	6.9	-2.1	-2.0	-2.1	0.02				
FEB	13.5	25.3	0.5	6.7	0.4	15.1	-15.7	7.2	-11.4	4.0	-22.7	6.8	-1.2	-0.2	-1.6	0.2	31.90	32.00	31.81	0.04
MARCH	18.1	31.5	1.4	6.6	-0.9	12.2	-15.6	7.4	-16.5	1.5	-29.1	6.7	-0.2	0.7	-1.3	0.4	32.64	32.81	32.56	0.05
APRIL													0.4	1.2	-0.2	0.4	32.71	32.85	32.62	0.08
MAY													2.3	4.7	0.6	1.4	32.80	32.84	32.76	0.02
JUNE													5.5	6.1	4.7	0.3	32.71	32.76	32.66	0.03
JULY	6.7	12.3	1.3	2.4	-1.1	6.3	-7.7	3.3	-5.5	1.5	-11.9	2.9	10.3	12.8	7.5	1.6	31.96	32.26	31.40	0.22
AUGUST	6.7	15.1	0.3	3.6	-0.2	6.6	-10.2	3.2	-4.5	14.9	-14.9	5.3	14.7	16.3	12.6	1.1	31.14	31.37	30.88	0.14
SEPT	12.5	32.6	1.6	6.8	-2.1	15.0	-28.5	8.1	-6.7	26.9	-30.2	9.4	13.2	16.3	11.2	1.3	31.01	31.22	30.82	0.10
OCT	11.8	38.4	0.9	7.0	-3.0	16.3	-30.0	8.8	-5.5	16.4	-26.5	8.6	7.3	11.5	4.2	1.9	31.14	31.61	30.74	0.20
NOV	10.2	28.2	0.4	5.8	-0.2	13.8	-21.3	7.3	-6.3	8.9	-23.4	6.8	2.8	5.1	1.9	0.8	31.94	32.28	31.21	0.38
DEC	9.7	31.5	6.9	6.9	1.7	11.6	-18.9	7.1	-5.6	4.4	-29.7	7.7	1.7	1.9	1.2	0.2	32.32	32.42	32.25	0.04

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 – DEC. 1984 (100 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	9.5	24.3	1.0	5.5	0.5	5.7	-7.2	2.8	-6.2	10.2	-24.2	8.7	-1.2	-1.1	-1.4	0.1	33.25	33.37	33.10	0.06
NOV	10.6	30.8	0.4	5.8	-0.8	18.6	-13.8	5.0	-8.3	13.8	-29.2	7.3	-0.6	1.2	-1.3	0.8	33.29	33.50	33.10	0.08
DEC	9.8	20.6	0.4	5.1	-5.0	10.4	-14.0	6.0	-5.0	10.0	-15.1	6.0	-0.5	1.1	-1.6	0.6	33.29	33.74	33.19	0.12

Table 23. Monthly statistics of the rate, u, v, T and S for the mid-depth layer for the slope area near Hibernia based on the filtered data.

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 - DEC. 1984 (100 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1981	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	9.3	20.5	1.0	4.2	-4.9	12.0	-17.9	5.7	-4.3	8.8	-16.6	5.5	-0.3	0.0	-1.4	0.3	33.25	33.75	32.85	0.17
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 – DEC. 1984 (100 M.) SAMPLE INTERVAL : 21600 SEC.

1982	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	15.0	42.6	1.0	13.4	5.8	12.5	-3.7	5.2	-12.9	2.3	-41.5	13.4	-0.9	0.1	-1.1	0.3	33.05	33.13	32.98	0.05
JUNE	10.2	20.4	0.5	4.8	3.5	13.7	-8.5	3.6	-8.2	3.9	-19.7	5.9	-1.2	0.0	-1.5	0.3	32.97	33.14	32.74	0.07
JULY	7.2	17.8	0.3	4.6	3.2	10.0	-2.5	2.7	-5.7	2.5	-17.1	4.8	-1.2	-0.8	-1.5	0.2	33.12	33.34	32.84	0.13
AUGUST	10.1	22.3	1.6	4.7	3.2	12.9	-5.6	4.1	-8.6	0.5	-20.4	4.8	-1.2	-0.3	-1.6	0.2	33.19	33.51	33.01	0.10
SEPT	5.5	12.6	1.1	3.0	1.9	4.8	-1.2	2.1	-4.8	-0.9	-11.7	3.0	-1.2	-1.0	-1.3	0.1	33.25	33.27	33.23	0.01
OCT	16.2	34.7	0.6	6.6	6.9	20.5	-4.8	4.1	-14.4	0.8	-28.1	6.0	-1.1	-0.5	-1.4	0.2	33.52	33.74	33.40	0.09
NOV	10.5	21.1	1.4	4.7	2.3	13.2	-14.3	5.6	-8.2	4.4	-20.3	5.3	-0.7	0.5	-1.3	0.5	33.47	33.66	33.37	0.06
DEC	17.4	37.7	0.8	7.9	1.3	16.2	-17.2	8.1	-14.3	8.1	-35.6	9.6	-0.1	0.6	-1.2	0.5	33.48	33.85	33.33	0.09

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 - DEC. 1984 (100 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	18.9	50.7	0.8	10.0	-4.0	14.3	-24.7	7.9	-15.5	5.5	-45.4	11.7	-0.3	0.0	-0.6	0.1	33.29	33.68	33.09	0.13
FEB	17.3	41.5	2.7	8.3	-6.0	6.5	-18.0	5.6	-14.0	13.7	-37.0	10.4	-0.7	-0.2	-1.2	0.2	33.36	33.58	33.21	0.07
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY	14.7	24.1	6.6	4.7	-2.2	6.2	-16.7	4.9	-13.8	-6.1	-23.5	4.3	-1.6	-1.0	-1.8	0.1	33.19	33.50	33.10	0.08
AUGUST	15.1	30.1	4.2	6.8	-2.7	8.4	-15.1	4.5	-14.1	-2.7	-38.9	7.0	-1.6	-1.2	-1.8	0.1	33.18	33.40	33.10	0.07
SEPT	17.4	32.7	3.4	7.7	-3.0	8.3	-16.2	4.2	-16.5	-1.3	-31.1	7.7	-1.4	-0.9	-1.7	0.1	33.53	33.71	33.44	0.06
OCT	23.0	55.8	7.4	10.1	-4.4	6.3	-16.1	4.6	-22.1	-4.8	-53.4	10.1	-1.1	0.1	-1.5	0.4	33.60	33.98	33.37	0.15
NOV	17.5	44.4	2.6	12.0	-2.1	8.1	-9.7	3.9	-15.7	10.3	-43.9	13.5	-1.3	-0.6	-1.6	0.3	33.33	33.74	33.16	0.17
DEC	10.0	26.7	0.6	5.0	0.5	10.0	-13.9	5.2	-4.6	13.6	-25.7	8.8	-0.8	0.3	-1.7	0.6	33.02	33.20	32.76	0.14

GRAND BANK SLOPE : NEAR MIDDLE JAN. 1980 – DEC. 1984 (100 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1984	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	8.6	20.3	1.2	4.7	0.3	11.7	-8.7	4.8	-5.1	7.3	-20.2	6.8	-0.4	-0.2	-0.7	0.1	32.92	33.03	32.81	0.06
FEB	9.8	19.1	2.0	4.2	-1.9	9.1	-12.2	4.5	-7.5	6.8	-18.1	5.8	-1.2	-0.9	-1.6	0.2	32.89	33.01	32.77	0.05
MARCH	10.3	21.7	1.3	4.3	-2.3	18.6	-20.6	6.9	-5.5	11.6	-18.0	6.6	-0.8	0.2	-1.7	0.5	32.77	33.01	32.57	0.12
APRIL	8.9	25.2	1.2	5.5	-1.2	9.3	-23.9	7.2	-2.4	12.1	-16.7	7.1	-0.1	0.4	-1.0	0.3	32.78	32.93	32.62	0.08
MAY	5.2	14.2	0.5	3.3	-0.6	13.9	-12.4	5.3	-0.3	7.5	-8.2	3.0	-0.2	0.2	-0.5	0.2	32.84	32.91	32.81	0.02
JUNE	5.8	16.1	0.8	3.4	-1.8	4.9	-8.5	4.0	2.1	15.8	-4.2	4.8	-0.2	0.0	-0.4	0.1	32.90	33.02	32.82	0.06
JULY	4.1	8.5	0.4	1.5	-0.8	4.4	-7.8	2.3	-0.5	5.7	-7.0	3.7	-1.1	-0.7	-1.3	0.1	32.85	32.92	32.70	0.06
AUGUST	3.3	8.2	0.2	1.6	0.2	5.4	-4.9	2.3	-0.9	6.6	-8.2	2.7	-1.2	-0.9	-1.3	0.1	32.87	33.01	32.80	0.04
SEPT	4.8	13.0	0.3	2.5	-0.5	7.1	-11.9	3.7	-0.4	7.3	-9.4	3.9	-1.3	-1.2	-1.4	0.03	33.03	33.10	32.95	0.04
OCT	5.5	16.1	0.3	3.7	-0.8	10.3	-13.6	4.7	-0.4	8.0	-12.0	4.7	-1.4	-1.2	-1.5	0.1	33.08	33.13	33.01	0.02
NOV	7.7	18.5	0.5	4.1	-0.3	10.8	-16.0	6.0	0.5	12.1	-14.1	6.4	-1.1	0.0	-1.6	0.5	33.05	33.18	32.86	0.06
DEC	7.8	15.5	2.0	2.9	1.8	10.4	-10.5	5.4	0.1	8.7	-12.7	6.2	-0.1	0.5	-1.4	0.4	32.96	33.16	32.85	0.06

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 – DEC. 1984 (175 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1980	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT	8.7	23.3	1.2	5.2	1.7	7.0	-4.1	2.9	-4.3	10.2	-22.9	8.6	-0.1	0.3	-0.5	0.2	33.81	33.95	33.66	0.08
NOV	9.5	23.3	0.7	5.6	1.2	15.3	-11.1	4.2	-8.0	3.9	-23.1	6.1	-0.1	0.2	-0.6	0.1	33.86	33.98	33.67	0.05
DEC	10.0	26.1	1.2	5.8	-5.2	12.7	-17.5	6.3	-5.9	6.6	-19.3	5.8	-0.4	0.3	-0.6	0.1	33.80	33.98	33.71	0.06

Table 24. Monthly statistics of the rate, u, v, T and S for the near bottom layer for the slope area near Hibernia based on the filtered data.

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 - DEC. 1984 (175 M.) SAMPLE INTERVAL : 21600 SEC.

	R A T E				U - C O M P O N E N T				V - C O M P O N E N T				T E M P E R A T U R E				S A L I N I T Y			
1 9 8 1	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	9.1	20.7	1.2	4.5	-5.3	8.5	-15.8	4.9	-5.5	4.4	-17.6	4.6	-0.5	-0.2	-0.7	0.1	33.64	33.84	33.52	0.07
FEB																				
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY																				
AUGUST																				
SEPT																				
OCT																				
NOV																				
DEC																				

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 - DEC. 1984 (175 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1982	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN																				
FEB																				
MARCH																				
APRIL																				
MAY	11.0	31.5	2.3	10.0	3.4	15.4	-5.3	6.0	-8.0	4.3	-30.1	10.5	0.7	1.2	0.1	0.4	33.80	33.96	33.57	0.12
JUNE	9.5	19.6	0.9	4.5	3.4	9.5	-6.9	2.9	-8.0	4.0	-19.0	5.1	0.1	1.1	-0.5	0.3	33.59	33.91	33.41	0.11
JULY	6.2	13.0	0.8	2.3	2.3	5.8	-3.1	1.8	-5.1	3.4	-11.8	3.0	0.1	0.8	-0.5	0.4	33.72	33.99	33.38	0.19
AUGUST	9.4	18.4	0.1	4.2	4.0	10.5	-2.9	2.3	-8.1	1.6	-16.7	4.3	0.2	0.6	-0.4	0.2	33.80	33.92	33.66	0.06
SEPT	8.6	13.6	4.7	2.6	3.9	7.9	0.4	2.5	-7.4	-4.2	-11.9	2.0	-0.1	0.1	-0.3	0.1	33.74	33.80	33.70	0.04
OCT	13.9	27.6	1.6	5.6	6.0	12.7	1.0	2.7	-12.2	3.5	-24.5	5.8	-0.6	0.8	-0.9	0.4	33.71	34.11	33.58	0.11
NOV	12.9	36.0	1.1	5.9	5.3	22.8	-9.2	6.3	-10.2	3.0	-27.9	5.4	-0.4	0.3	-0.8	0.2	33.69	33.93	33.50	0.08
DEC	12.1	25.9	0.5	7.5	6.0	15.3	-3.6	4.7	-9.8	1.5	-21.8	7.0	-0.2	0.2	-0.5	0.2	33.61	33.77	33.41	0.11

GRAND BANK SLOPE : NEAR BOTTOM JAN. 1980 – DEC. 1984 (175 M.) SAMPLE INTERVAL : 21600 SEC.

	RATE				U-COMPONENT				V-COMPONENT				TEMPERATURE				SALINITY			
1983	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	23.4	44.8	4.0	10.4	-1.0	6.1	-8.5	4.3	-20.7	13.4	-44.1	14.6	0.5	1.4	-0.2	0.5	33.87	34.18	33.52	0.21
FEB	15.2	31.1	2.4	7.1	-2.4	10.5	-11.7	4.1	-14.3	-2.2	-31.0	7.3	0.4	2.7	-0.8	0.6	33.84	34.57	33.38	0.21
MARCH																				
APRIL																				
MAY																				
JUNE																				
JULY													-0.4	0.3	-0.9	0.2	34.28	34.66	34.09	0.14
AUGUST													-0.6	0.0	-1.2	0.3	34.08	34.30	33.86	0.10
SEPT													-0.4	-0.3	-0.4	0.1	34.16	34.18	34.15	0.02
OCT																				
NOV	13.9	37.1	2.0	8.1	0.3	8.8	-10.7	3.9	-12.0	10.9	-37.0	10.0	-0.9	0.8	-1.4	0.6	33.52	34.24	33.20	0.33
DEC	10.6	26.1	0.8	5.5	1.3	11.5	-7.1	4.1	-6.5	14.4	-25.9	9.1	-1.3	-1.3	-1.5	0.04	33.21	33.26	33.14	0.03

GRAND BANK SLOPE : NEAR BOTTOM   JAN. 1980 – DEC. 1984   (175 M.)   SAMPLE INTERVAL : 21600 SEC.

1984	RATE				U–COMPONENT				V–COMPONENT				TEMPERATURE				SALINITY			
	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
JAN	7.7	18.2	0.3	4.5	1.4	11.1	–7.6	3.8	–5.4	4.0	–17.9	5.8	–1.3	–1.1	–1.5	0.1	33.12	33.20	33.07	0.03
FEB	7.9	17.7	0.2	4.1	0.7	10.4	–8.2	3.6	–6.2	3.9	–17.3	5.3	–1.2	–0.9	–1.7	0.2	33.13	33.23	32.98	0.05
MARCH	7.0	15.0	0.8	3.4	0.2	5.8	–5.1	3.3	–6.0	–0.2	–15.0	3.9	–1.3	–1.1	–1.6	0.1	33.20	33.29	33.06	0.06
APRIL																				
MAY																				
JUNE																				
JULY	3.3	8.4	0.2	1.7	–0.3	6.8	–5.9	2.2	–1.0	4.7	–6.9	2.8	–1.2	–1.1	–1.3	0.1	33.37	33.44	33.28	0.03
AUGUST	3.6	7.5	0.3	1.5	–0.1	5.8	–5.7	2.5	–1.3	6.1	–7.0	2.7	–1.2	–1.1	–1.2	0.03	33.39	33.44	33.35	0.02
SEPT	4.6	13.1	0.1	2.5	–0.1	7.5	–10.9	3.5	–0.1	8.1	–8.8	3.8	–1.0	–0.9	–1.2	0.1	33.46	33.55	33.35	0.04
OCT	5.8	18.2	0.5	3.8	–0.7	10.3	–11.3	4.4	–1.8	7.6	–14.3	5.0	–1.1	–1.0	–1.4	0.1	33.49	33.57	33.41	0.03
NOV	9.5	19.0	1.0	4.6	–1.7	9.8	–14.9	6.8	3.9	8.8	–15.0	6.9	–1.3	–1.2	–1.5	0.1	33.45	33.51	33.34	0.05
DEC																				

Section 2

Lagrangian Currents

Index of Figures and Tables

		Page
Figure 1.	The study area is divided into $1° \times 1°$ squares each containing an identity number in the upper right hand corner and the number of satellite tracked drifters which entered each square/the number of daily mean current vectors for each square.	192
Figure 2.	Map of the mean current vectors for each $1° \times 1°$ square. An open (solid) arrow head signifies a current between 0 and 0.05 m/s (0.05 and 0.10 m/s).	193
Figure 3.	Contour map of eddy kinetic energy (units are $10^{-4} m^2/s^2$) based on values in the $1° \times 1°$ squares. Squares with fewer than 10 data points are omitted.	194
Figure 4.	Map of the maximum daily mean currents observed in each $1° \times 1°$ square.	195
Figure 5.	Currents derived from the tracks of the Labrador Current drifters 1976-1985.	196
Table 1.	Start time and position of satellite tracked buoys.	197
Figure 6.	Track of buoy 4070. An "S" indicates start of the track and an "E" indicates the end. Squares mark 1200 UT each day.	198
Figure 7.	Track of buoy 4071.	199
Figure 8.	Track of buoy 4072.	200
Figure 9.	Track of buoy 4078.	201
Figure 10.	Track of buoy 4079.	202
Figure 11.	Track of buoy 4080.	203
Figure 12.	Track of buoy 4091.	204
Figure 13.	Track of buoy 4509.	205
Figure 14.	Track of buoy 4510.	206
Figure 15.	Track of buoy 4511.	207
Figure 16.	Track of buoy 4512.	208
Figure 17.	Track of buoy 4514.	209

Index of Figures and Tables

		Page
Figure 18.	Track of buoy 4528.	210
Figure 19.	Track of buoy 4530.	211
Figure 20.	Track of buoy 4531.	212
Figure 21.	Track of buoy 2632.	213
Figure 22.	Track of buoy 2633.	214
Figure 23.	Track of buoy 5419.	215
Figure 24.	Track of buoy 5420.	216
Figure 25.	Track of buoy 5421.	217
Figure 26.	Track of buoy 5422.	218
Figure 27.	Track of buoy 5423.	219
Figure 28.	Track of buoy 5424.	220
Figure 29.	Track of buoy 5426.	221
Figure 30.	Track of buoy 5427.	222
Figure 31.	Track of buoy 5428.	223
Figure 32.	Track of buoy 5429.	224
Figure 33.	Track of buoy 5439.	225

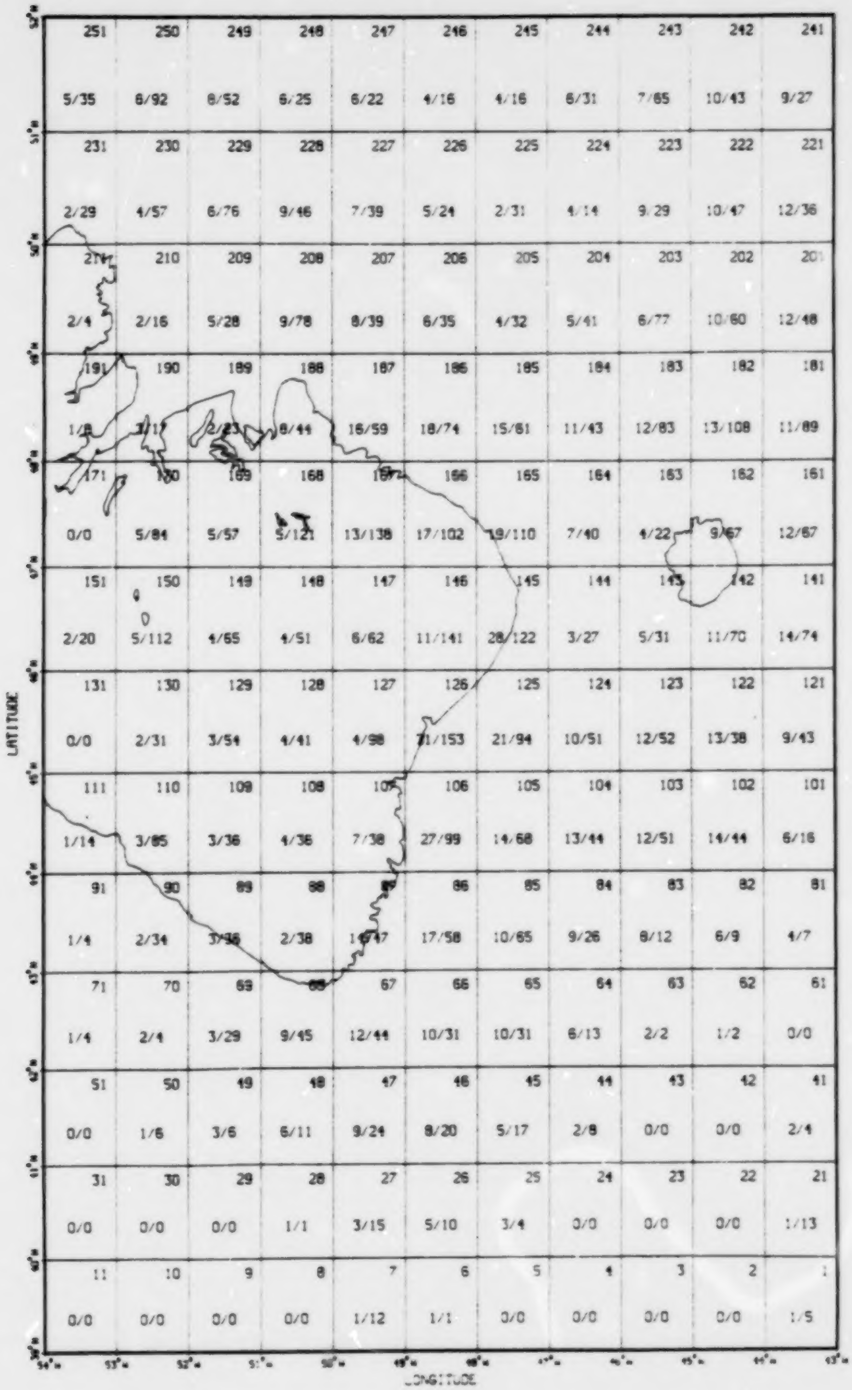


Figure 1. The study area is divided into 1° × 1° squares each containing an identity number in the upper right hand corner and the number of satellite tracked drifters which entered each square/the number of daily mean current vectors for each square.

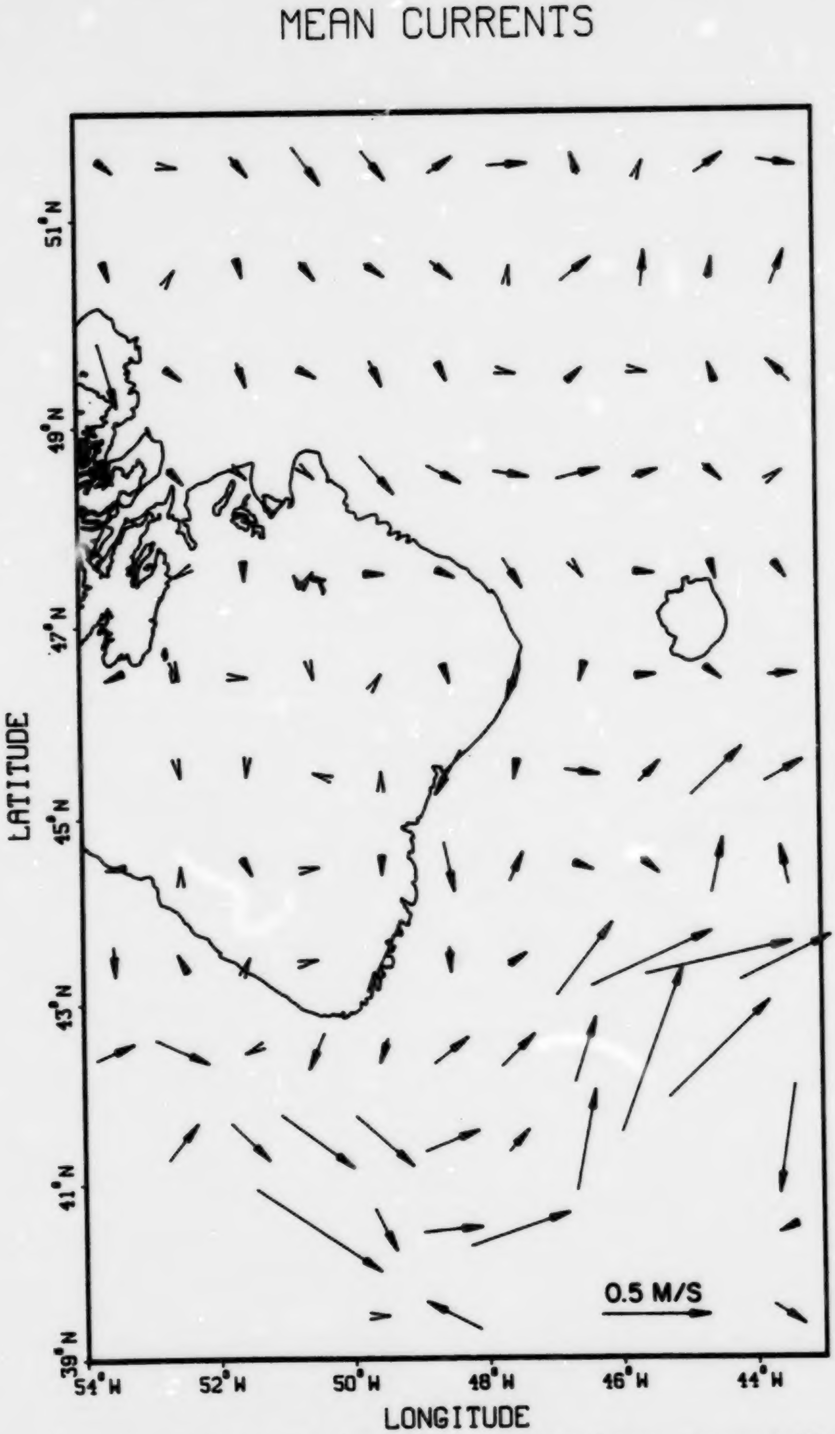


Figure 2. Map of the mean current vectors for each 1° × 1° square. An open (solid) arrow head signifies a current between 0 and 0.05 m/s (0.05 and 0.10 m/s).

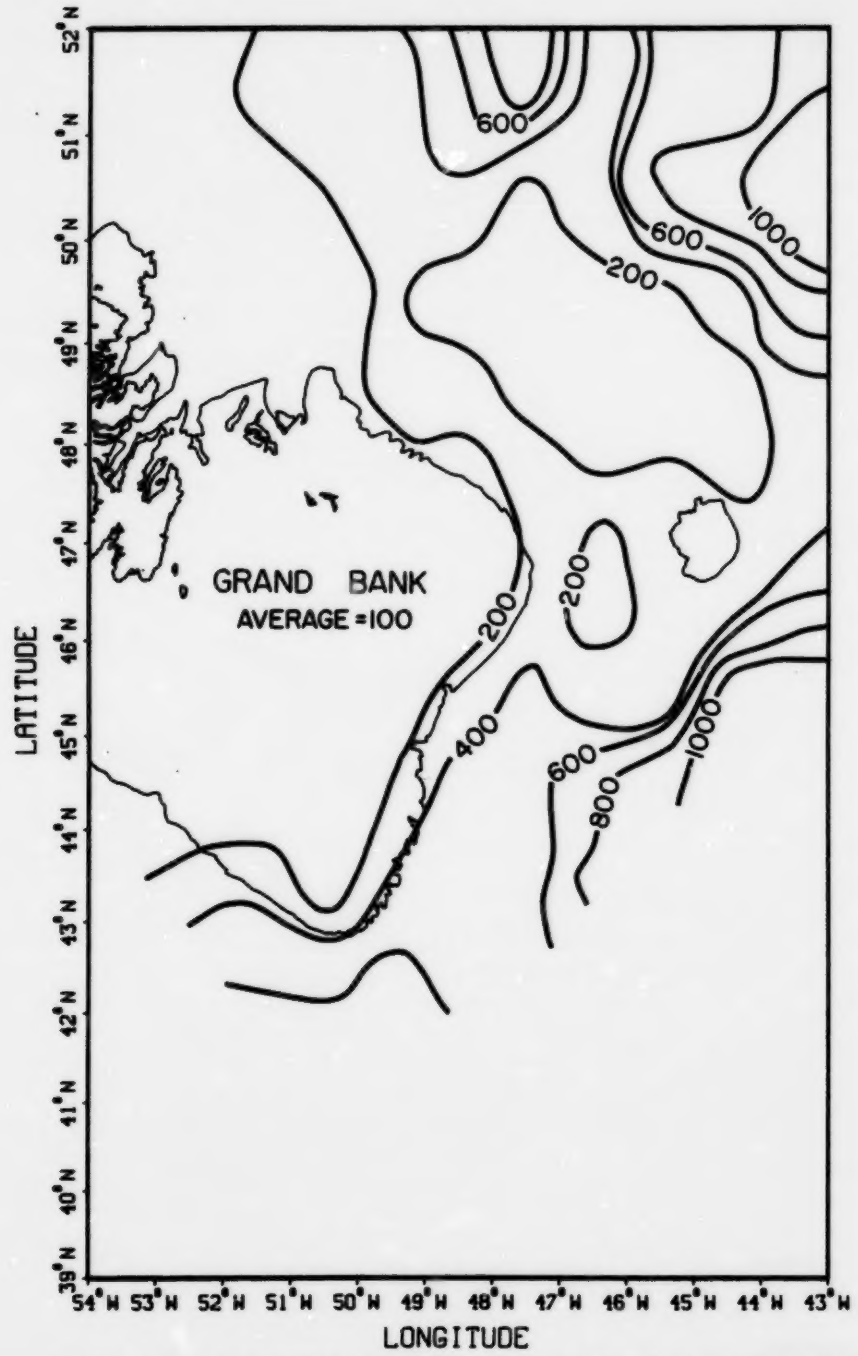


Figure 3. Contour map of eddy kinetic energy (units are $10^{-4} m^2/s^2$) based on values in the 1° × 1° squares. Square with fewer than 10 data points are omitted.

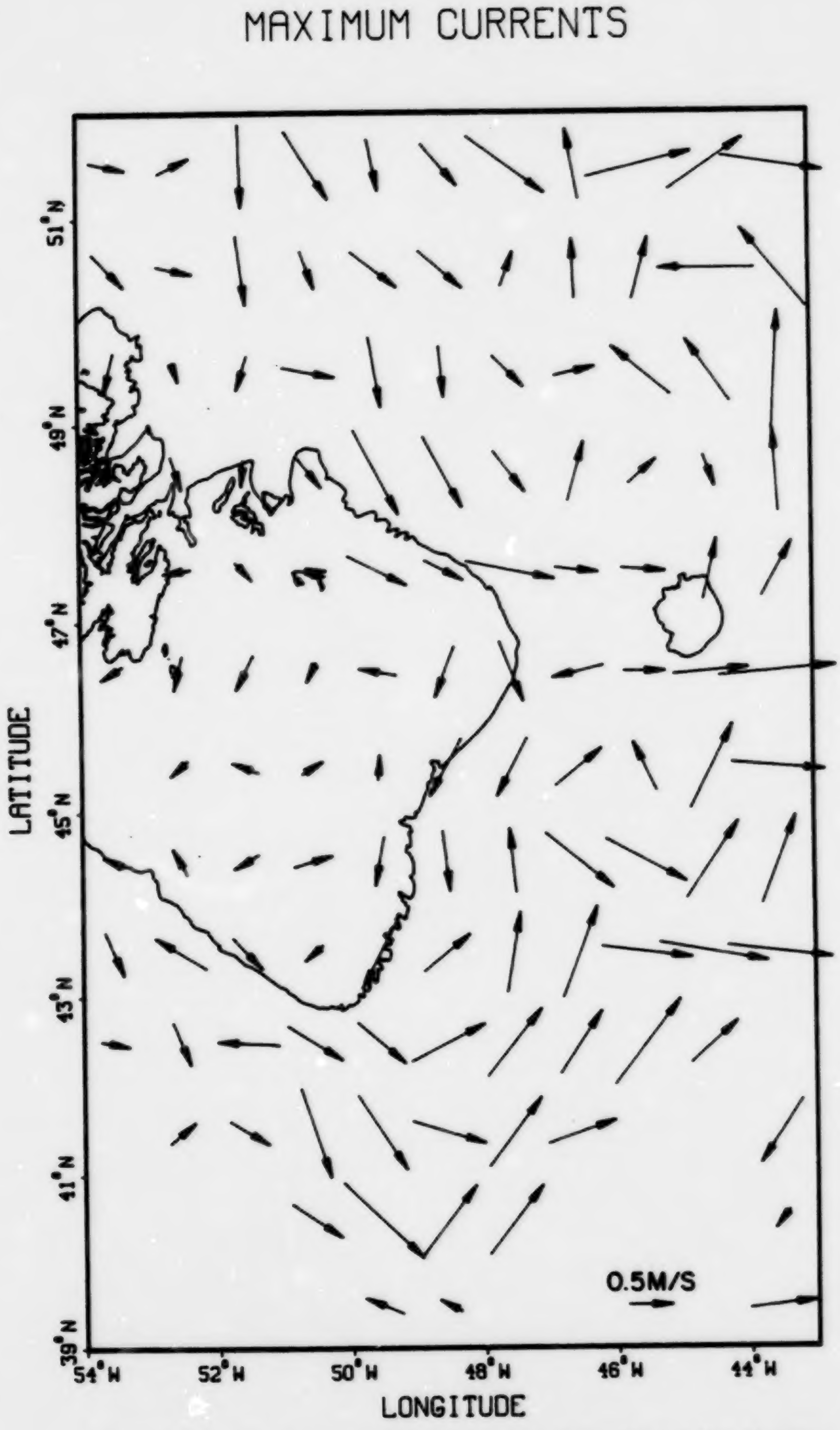


Figure 4. Map of the maximum daily mean currents observed in each 1° × 1° square.

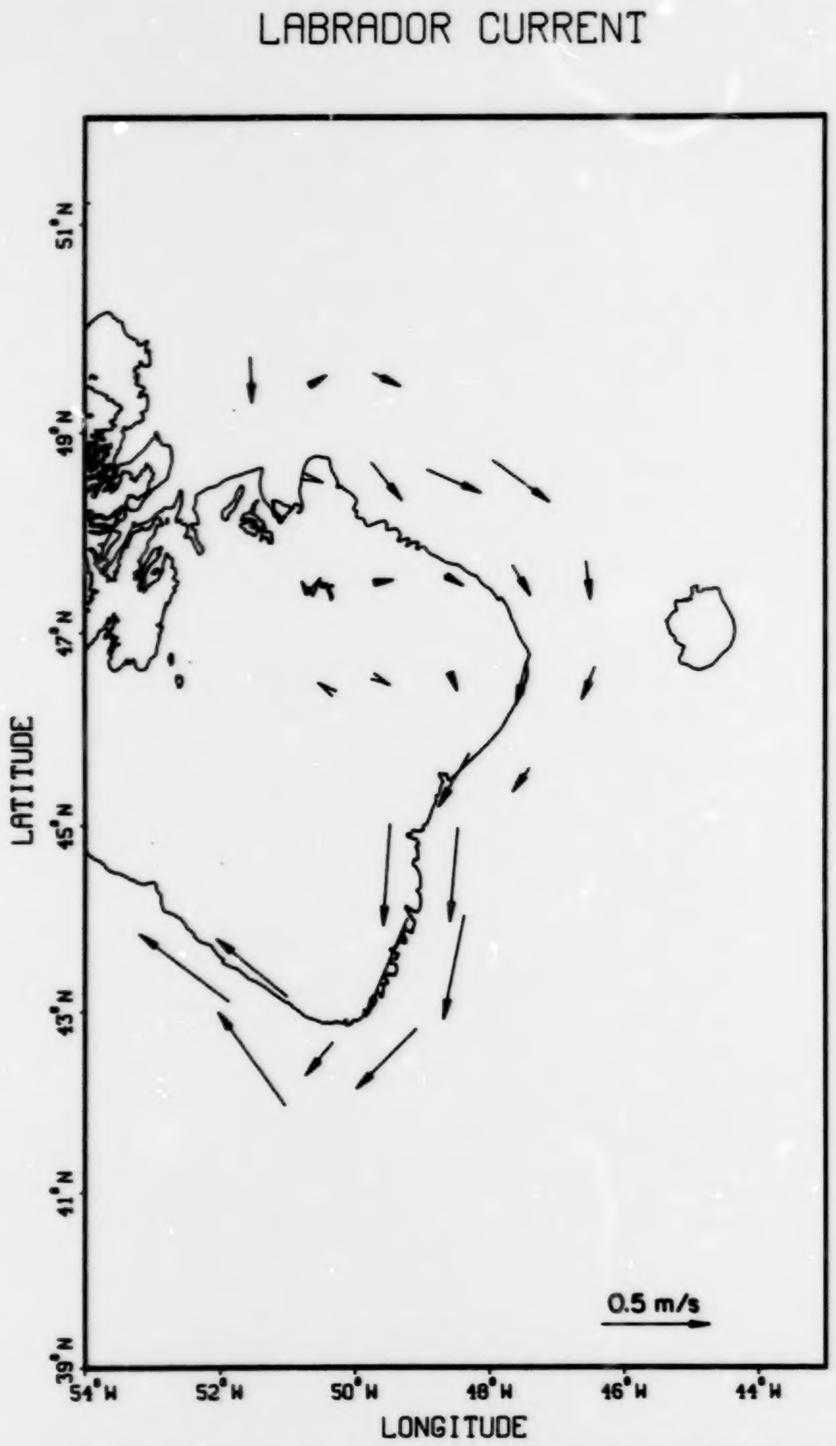


Figure 5. Currents derived from the tracks of the Labrador Current drifters 1976-1985.

Table 1. Start time and position of satellite tracked buoys.

Data Source	Buoy Number	Year	Day	Latitude	Longitude
Petro-Canada	4070	1981	16 Dec (350)	50.19	54.15
	4071	1983	20 Oct (293)	51.88	49.87
	4072	1982	11 Oct (284)	51.99	50.74
	4078	1982	10 Nov (314)	51.98	52.61
	4079	1982	2 Dec (336)	51.99	52.91
	4080	1982	11 Dec (345)	51.98	53.45
	4091	1983	11 Nov (315)	51.82	49.59
International	4509	1984	23 Mar (083)	49.96	46.00
Ice Patrol	4510	1984	25 Mar (085)	49.05	47.85
	4511	1984	22 Mar (082)	48.26	50.04
	4512	1984	27 Apr (118)	47.88	47.48
	4514	1984	28 Apr (119)	48.25	52.50
	4528	1984	05 Aug (210)	50.98	50.98
	4530	1984	06 Aug (211)	46.77	46.94
	4531	1984	13 Jun (165)	48.53	47.92
	2632	1984	17 Jul (199)	48.63	46.09
	2633	1984	06 Jul (188)	48.28	48.14
Fisheries and Oceans	5419	1984	28 Nov (332)	47.03	49.50
	5420	1984	28 Nov (332)	46.94	49.48
	5421	1984	28 Nov (332)	47.07	49.50
	5422	1984	28 Nov (332)	47.04	49.51
	5423	1985	27 Apr (117)	46.99	50.89
	5424	1985	27 Apr (117)	46.98	49.48
	5426	1985	27 Apr (117)	46.97	49.96
	5427	1985	27 Apr (117)	47.02	50.44
	5428	1984	28 Nov (332)	47.04	49.52
	5429	1985	27 Apr (117)	47.00	51.93
	5439	1985	27 Apr (117)	46.989	49.00

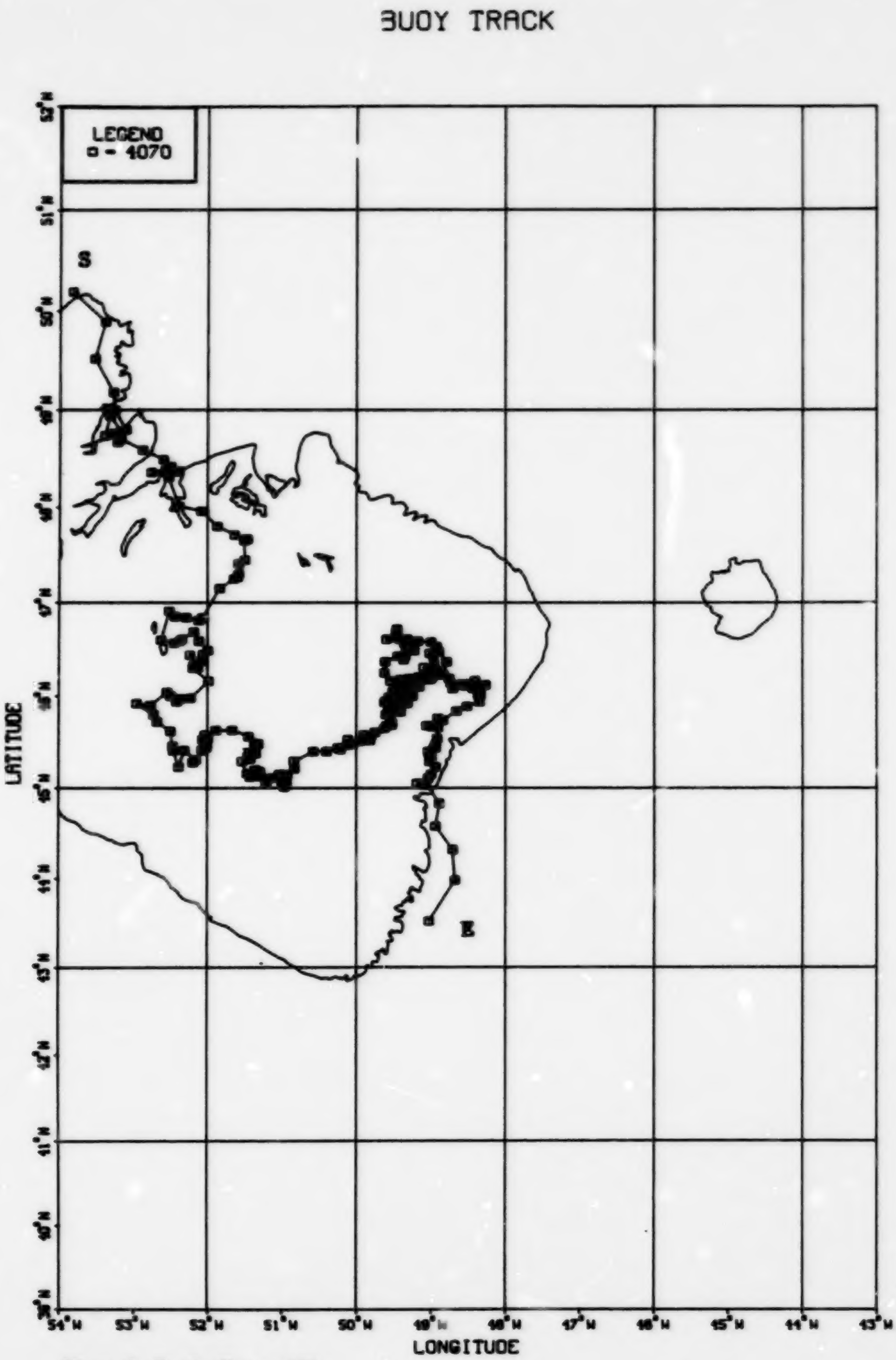


Figure 6. Track of buoy 4070.

BUOY TRACK

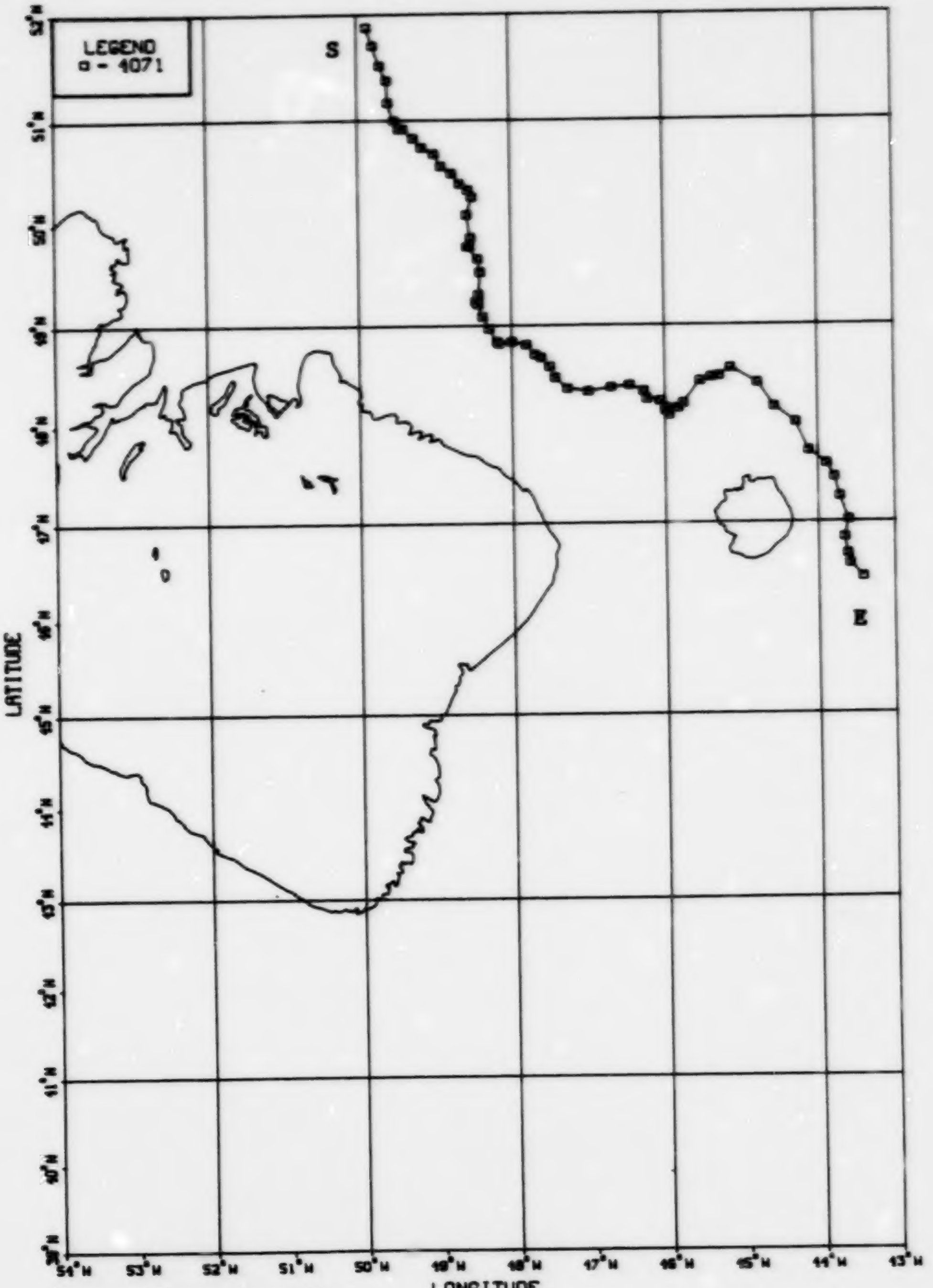


Figure 7. Track of buoy 4071.

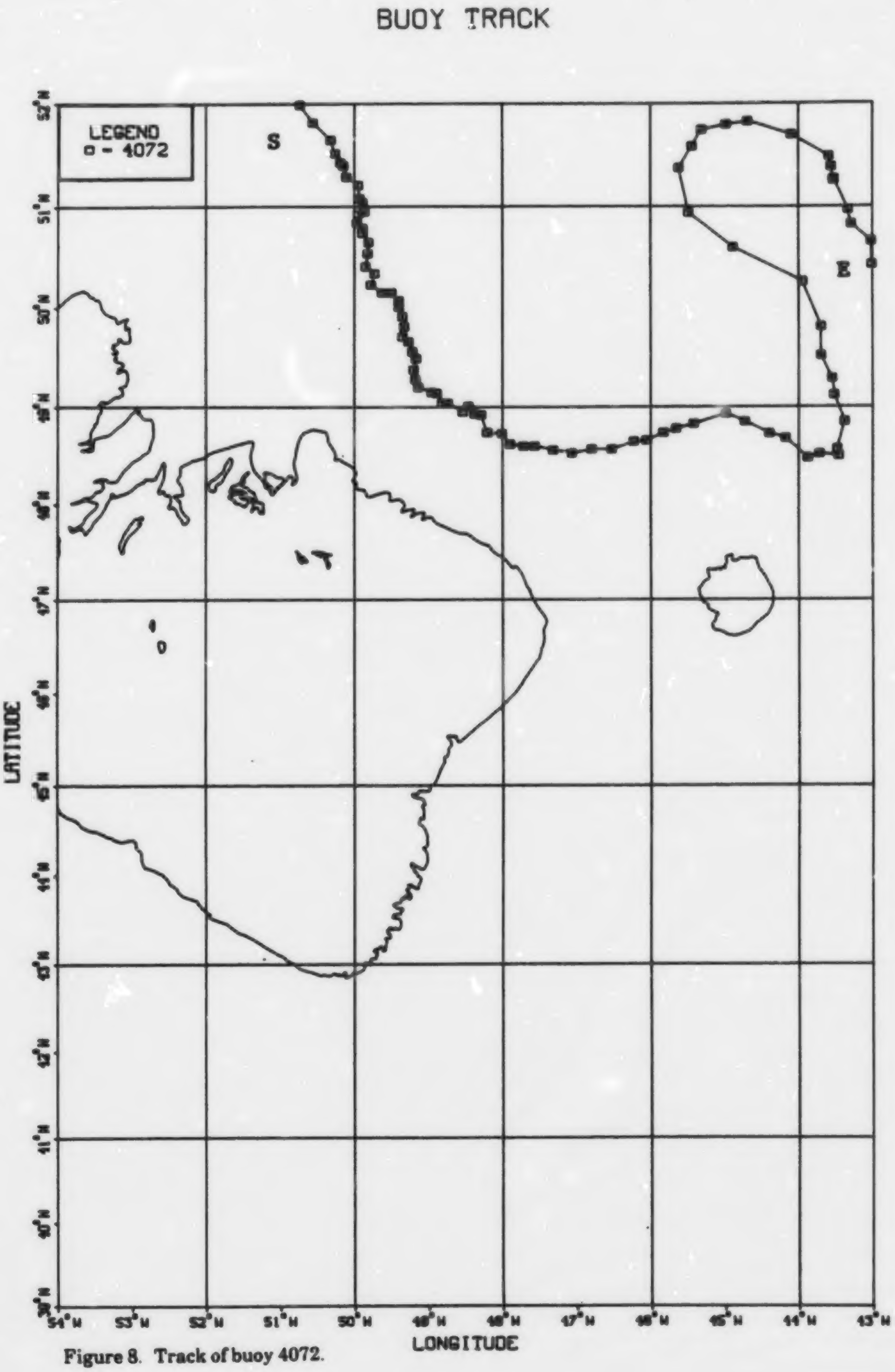


Figure 8. Track of buoy 4072.

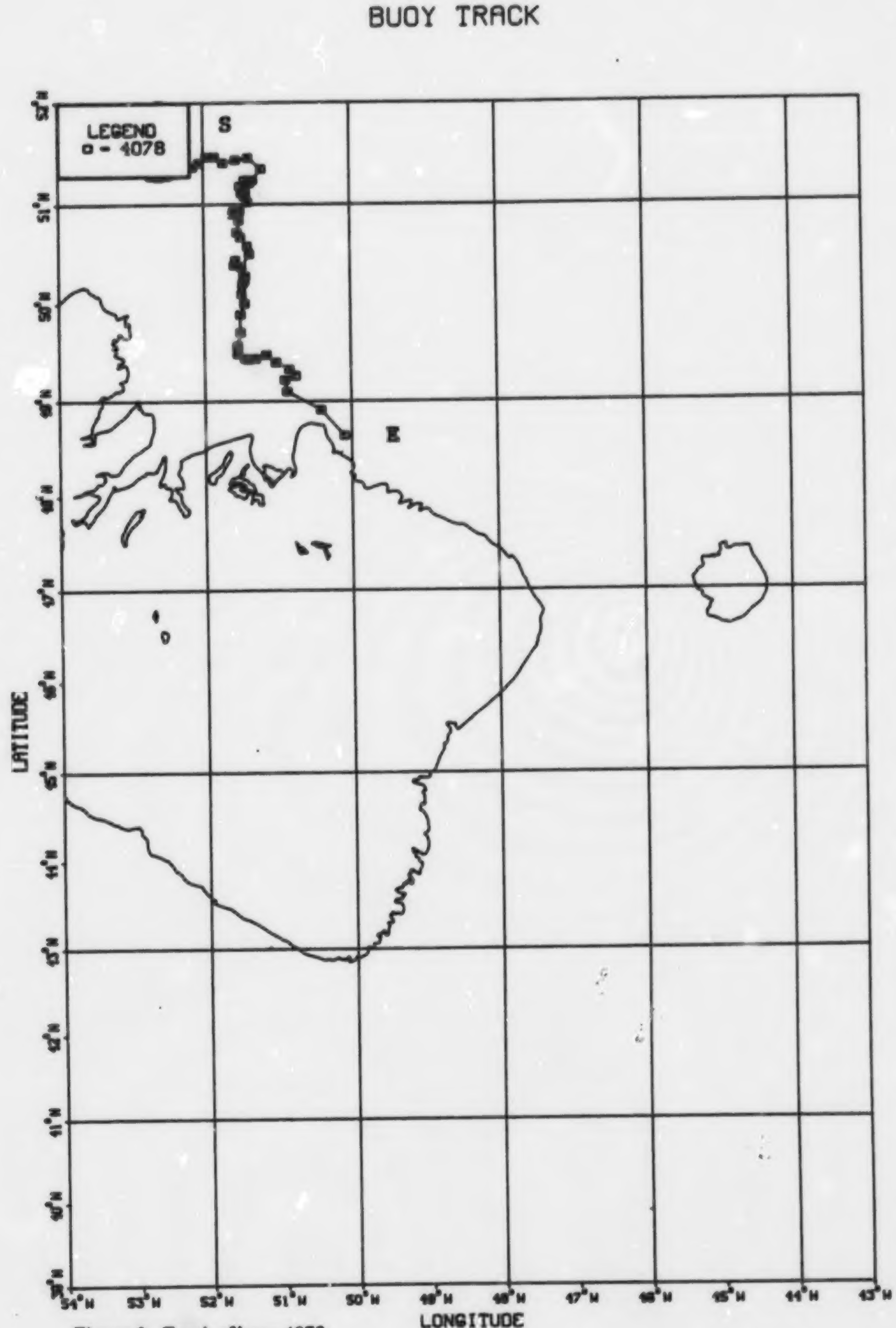


Figure 9. Track of buoy 4078.

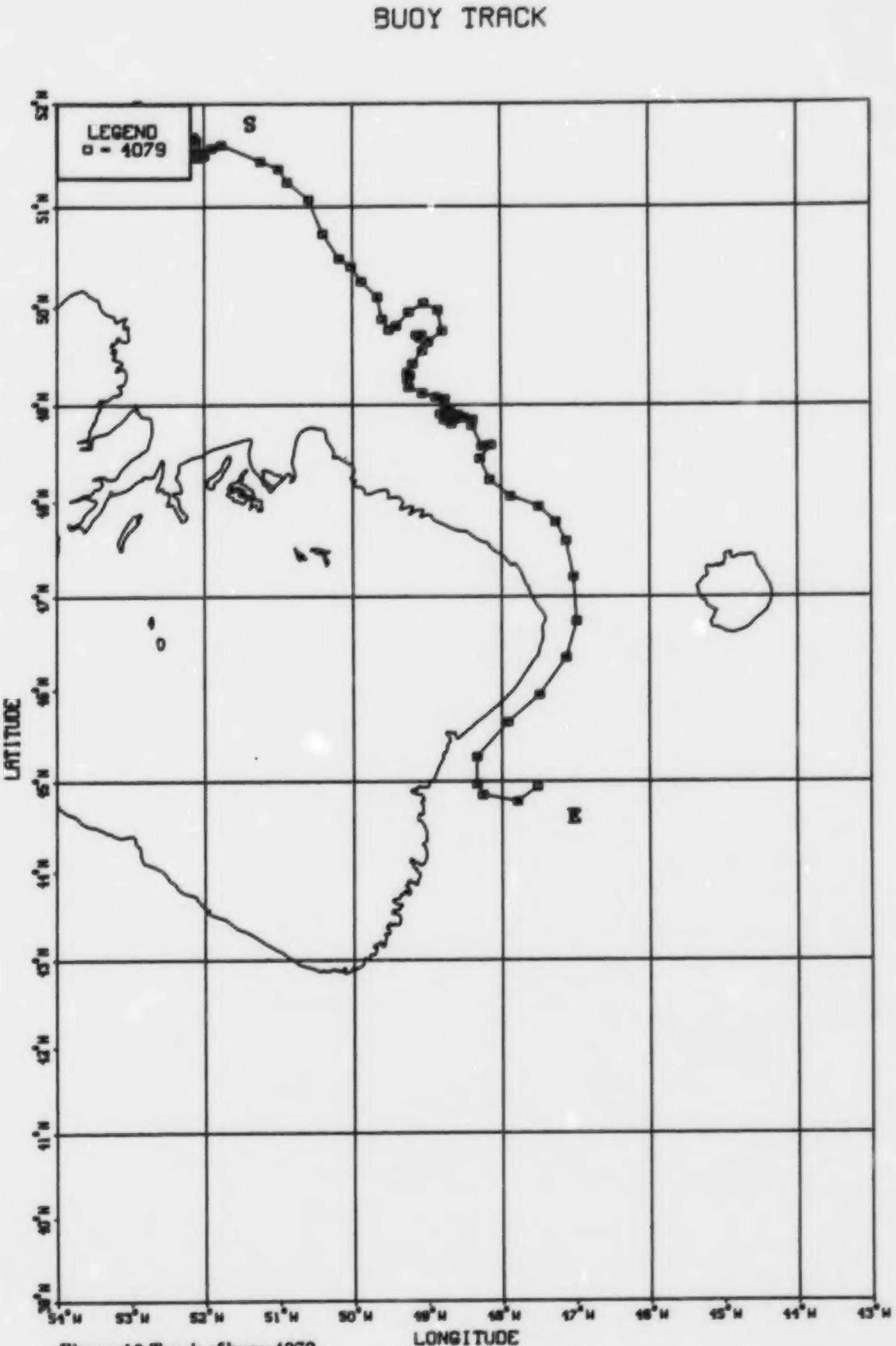


Figure 10. Track of buoy 4079.

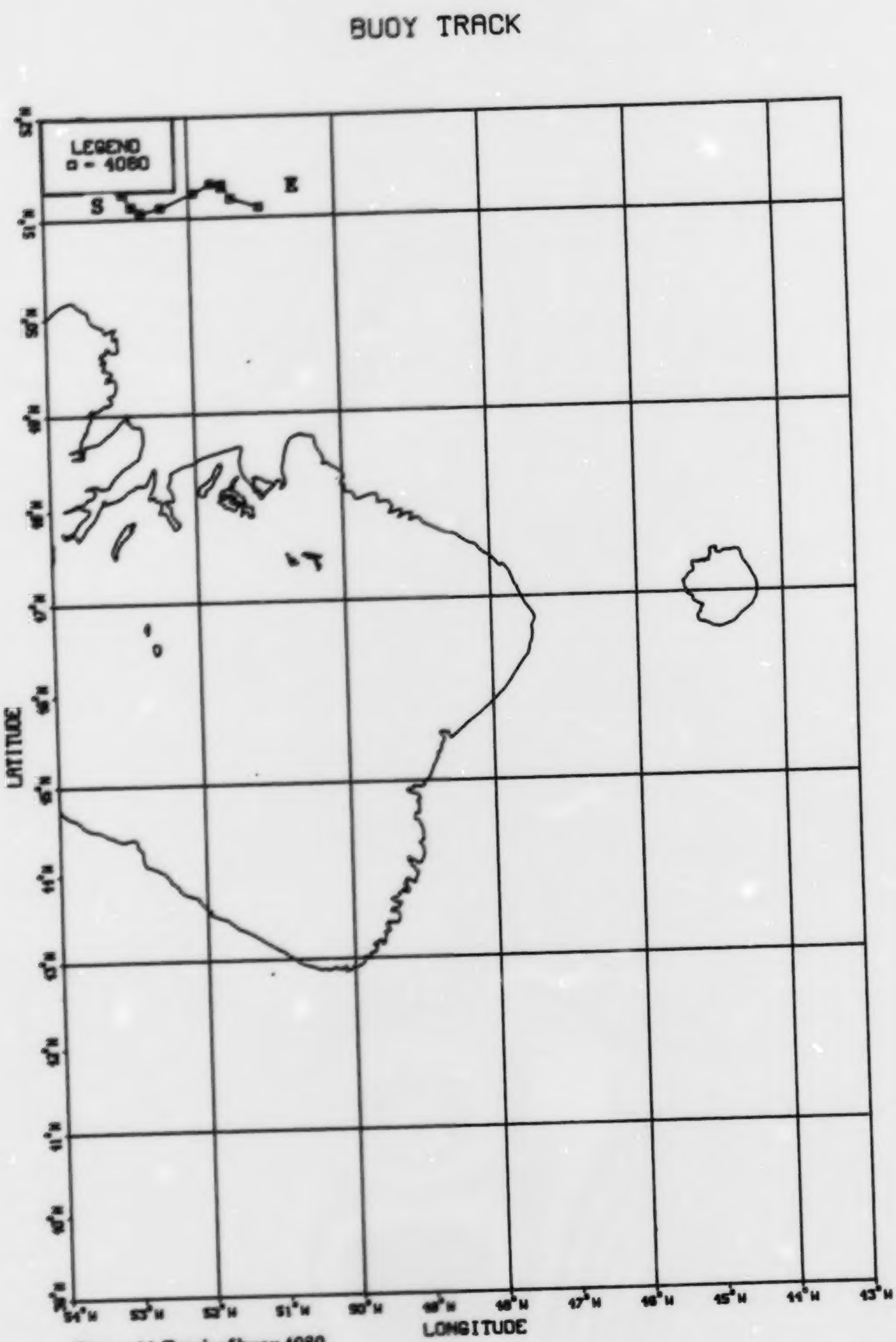


Figure 11. Track of buoy 4080.

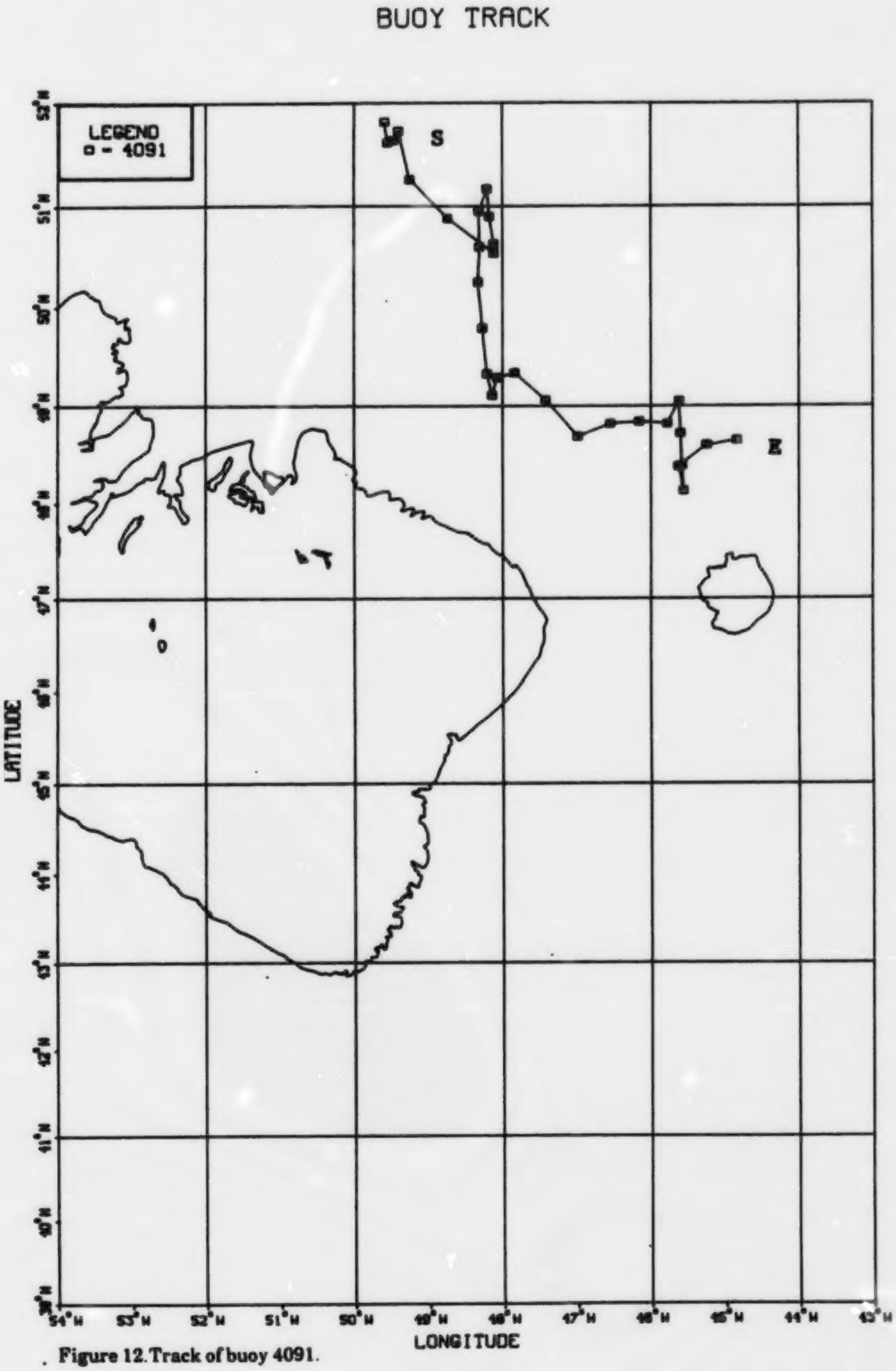


Figure 12. Track of buoy 4091.

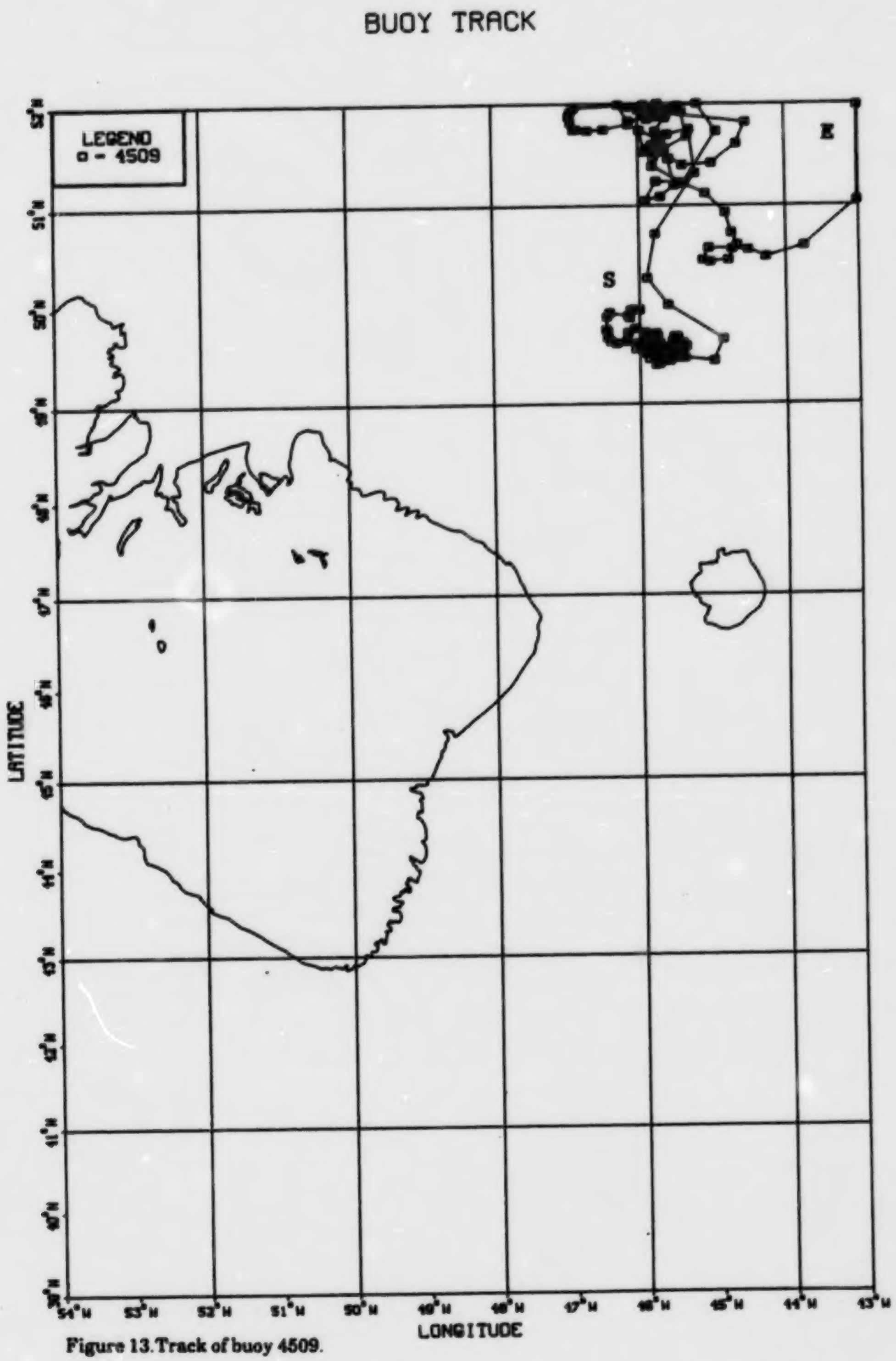


Figure 13. Track of buoy 4509.

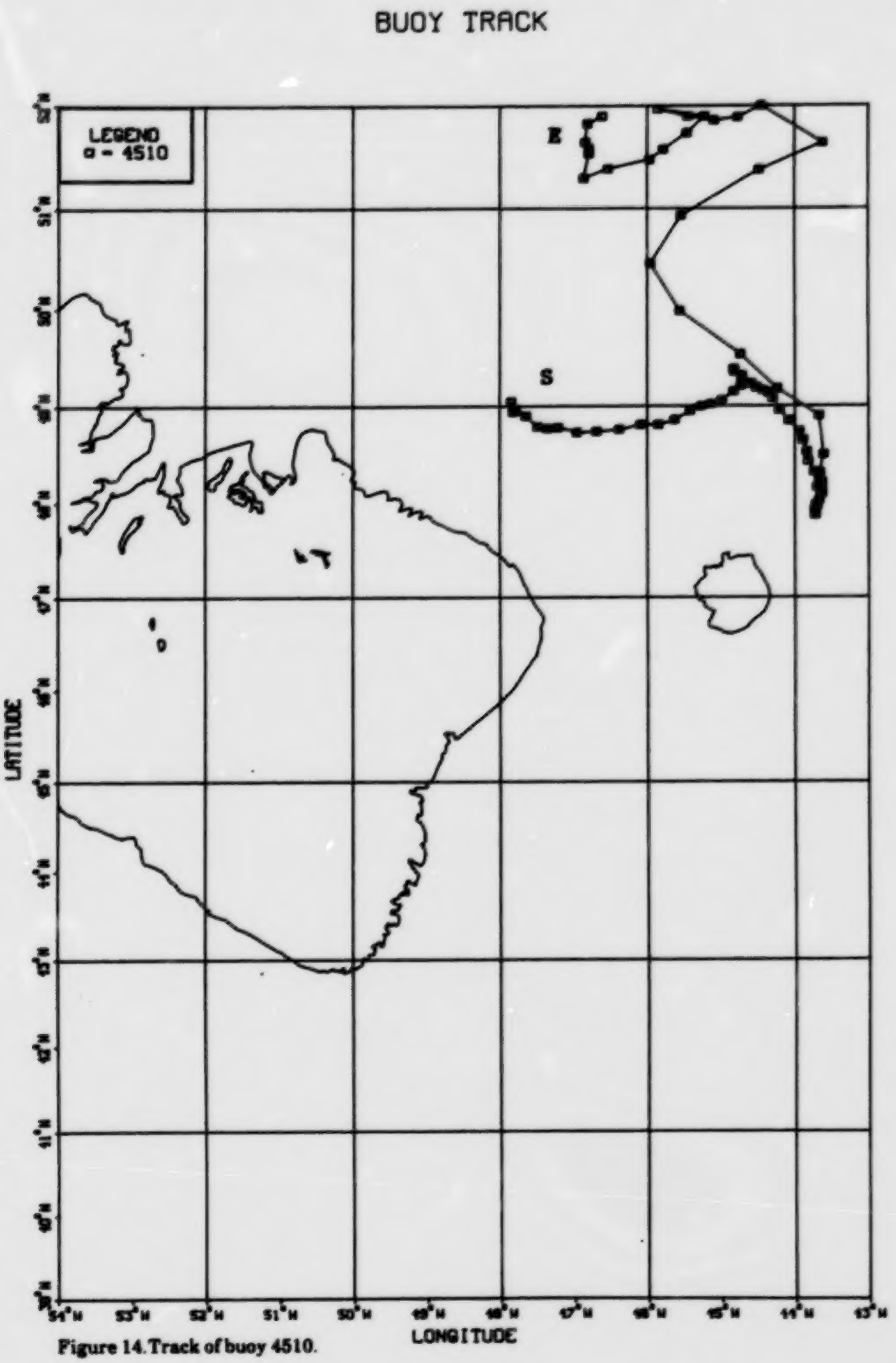


Figure 14. Track of buoy 4510.

BUOY TRACK

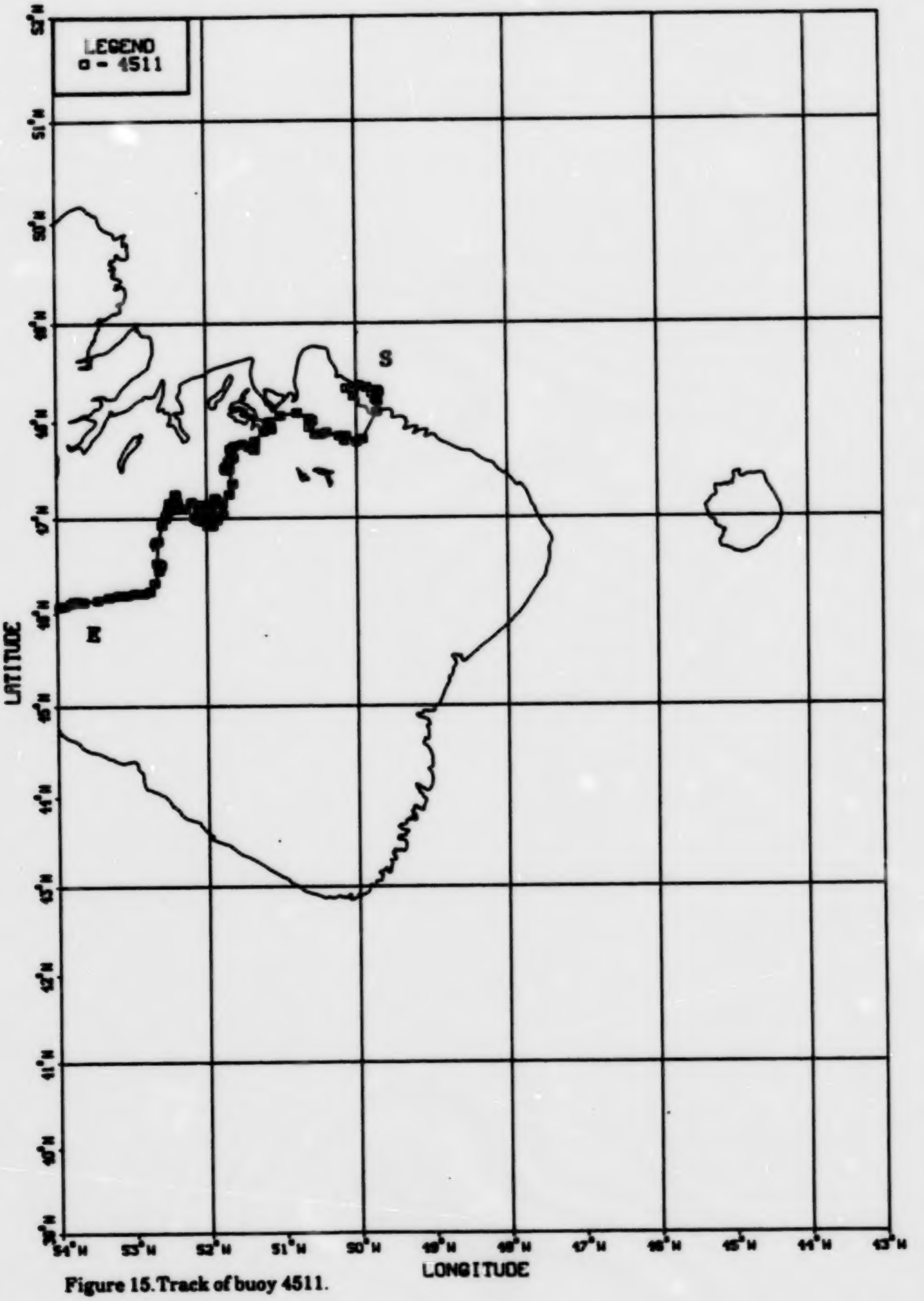


Figure 15. Track of buoy 4511.

BUOY TRACK

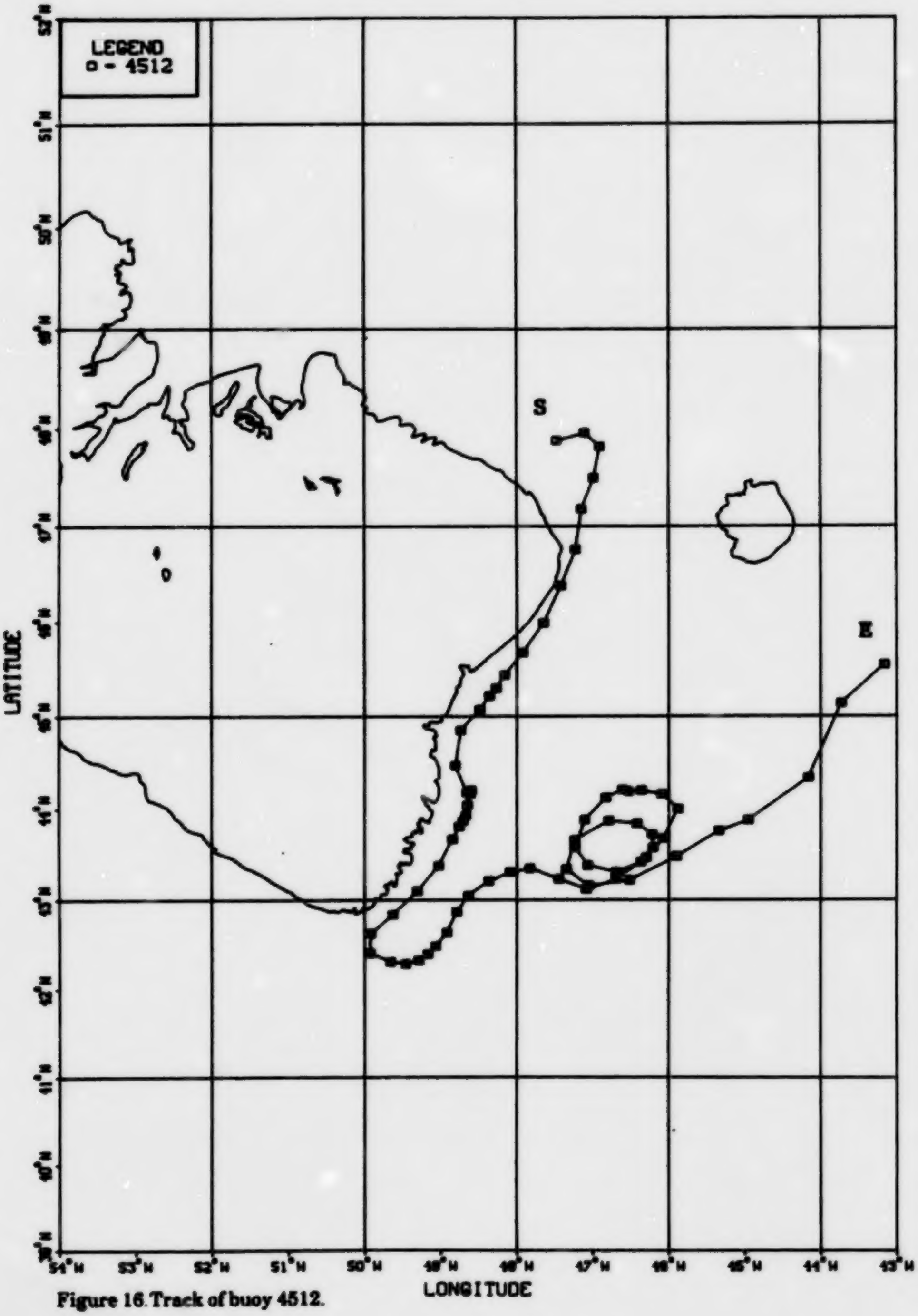


Figure 16. Track of buoy 4512.

BUOY TRACK

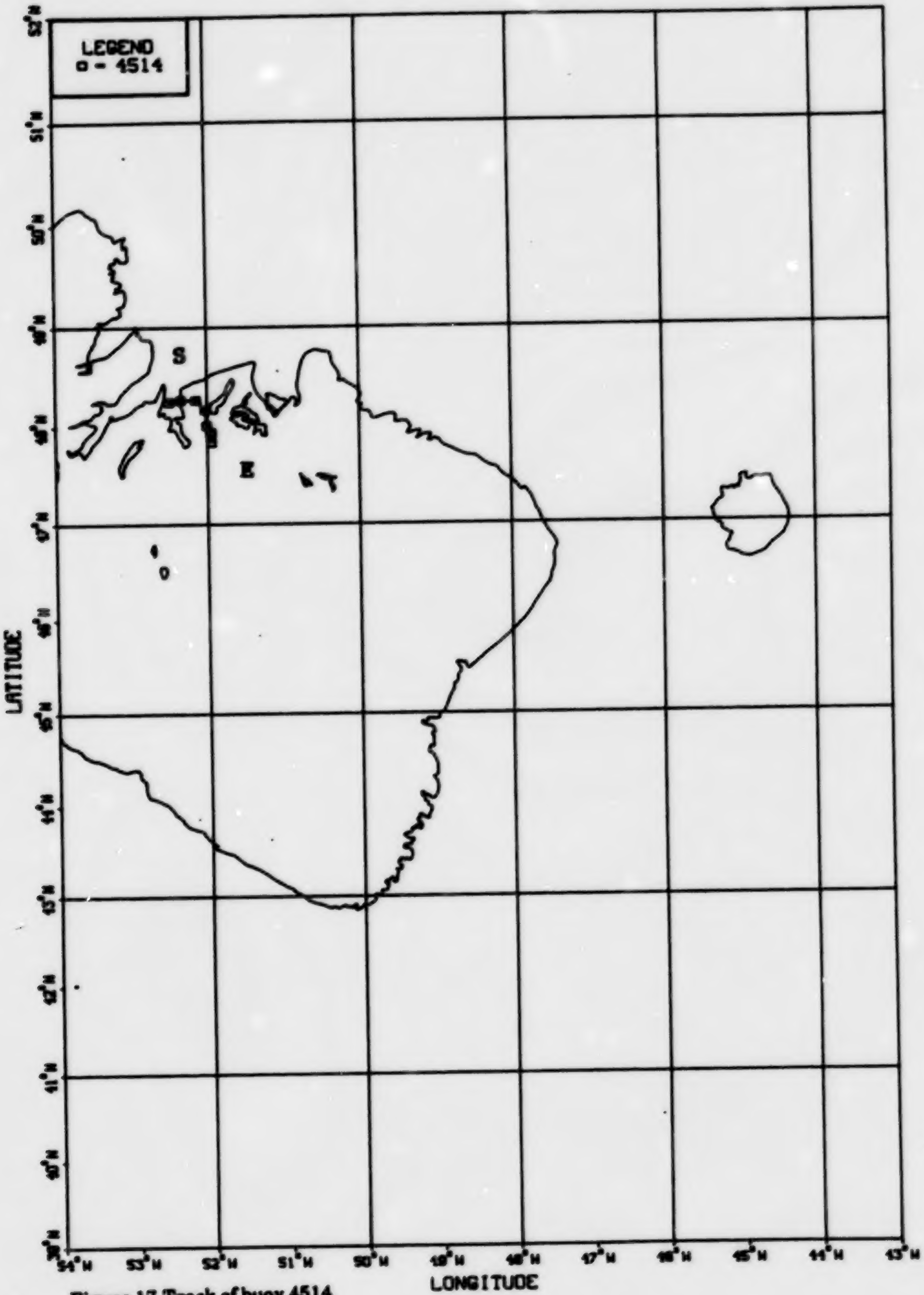


Figure 17. Track of buoy 4514.

BUOY TRACK

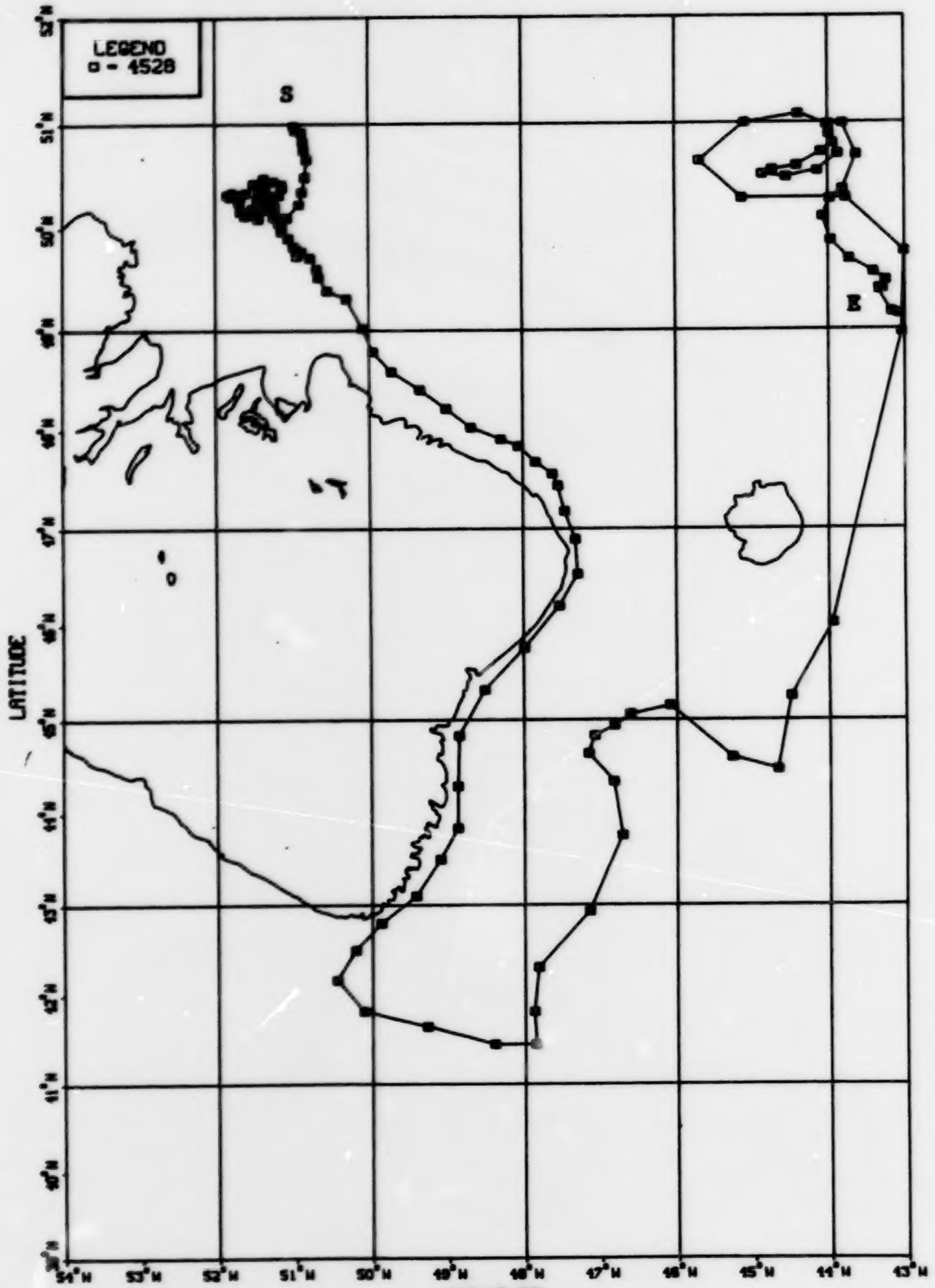


Figure 18. Track of buoy 4528.

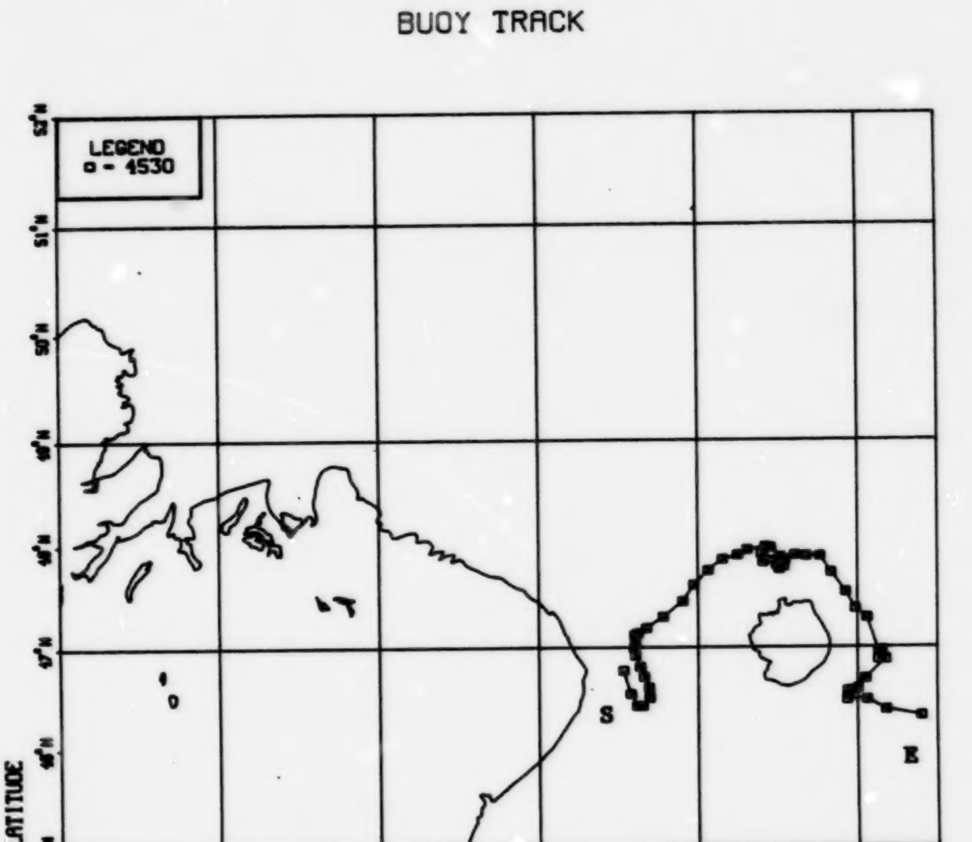


Figure 19. Track of buoy 4530.

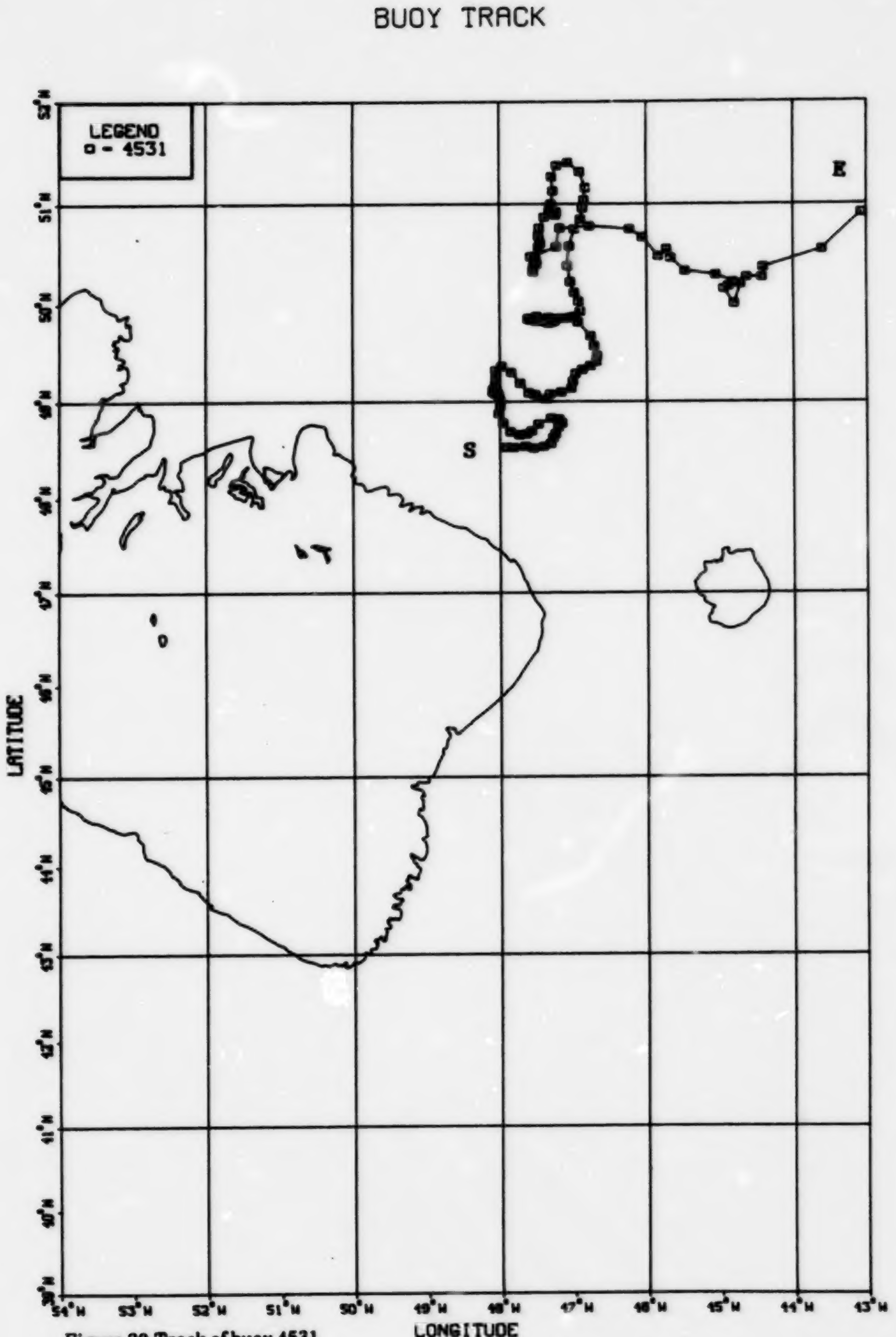


Figure 20. Track of buoy 4531.

BUOY TRACK

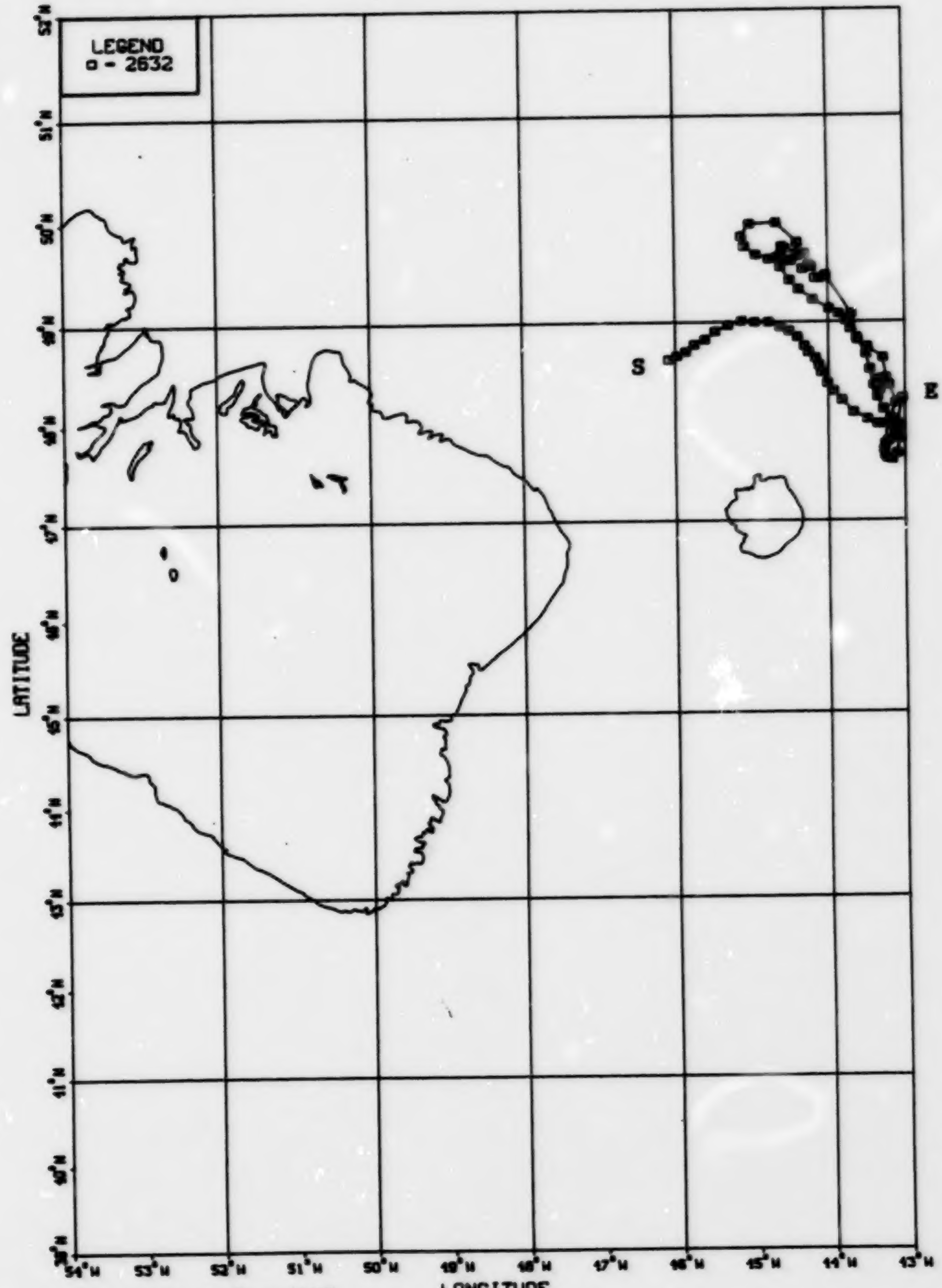


Figure 21. Track of buoy 2632.

BUOY TRACK

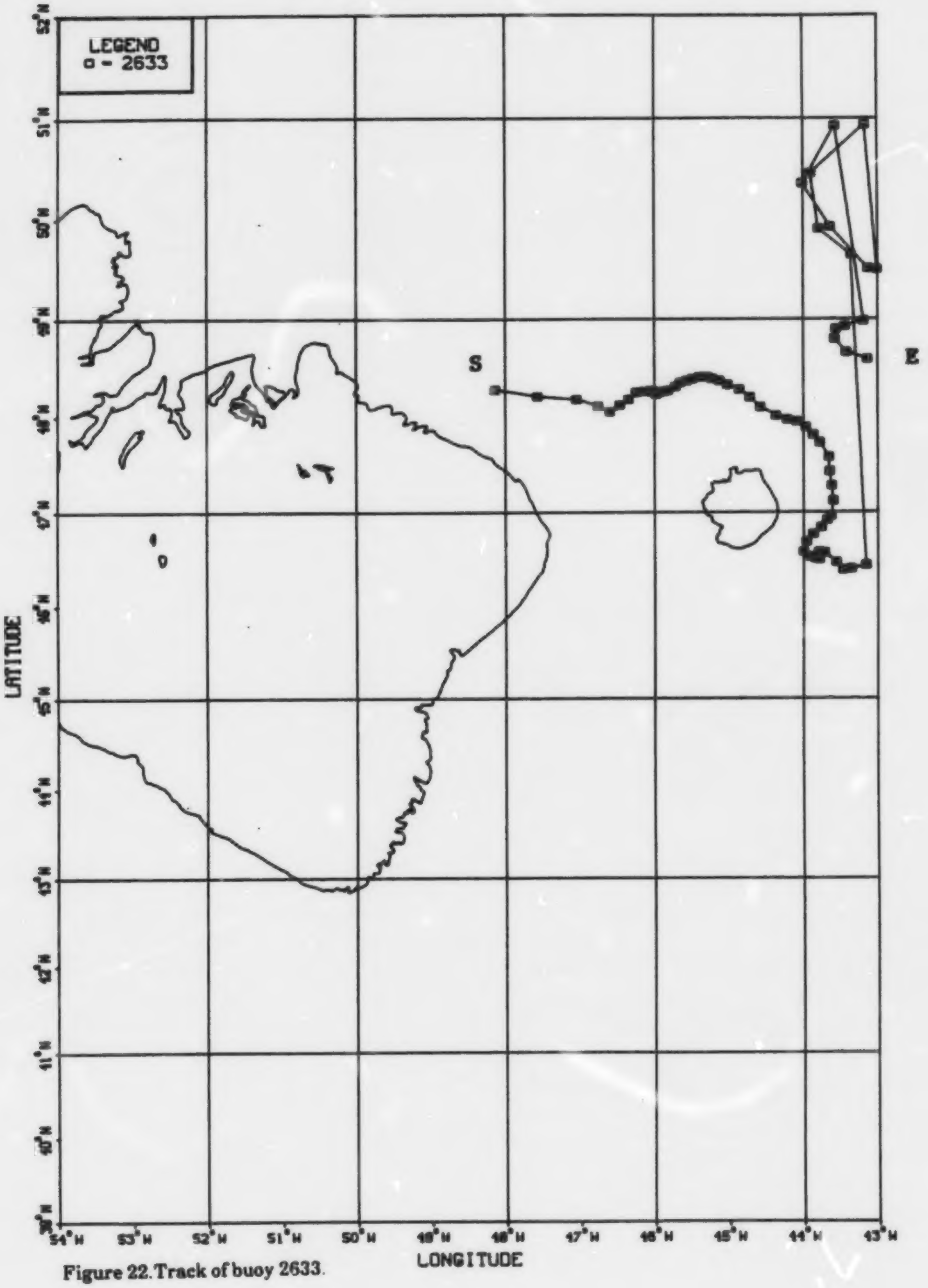


Figure 22. Track of buoy 2633.

BUOY TRACK

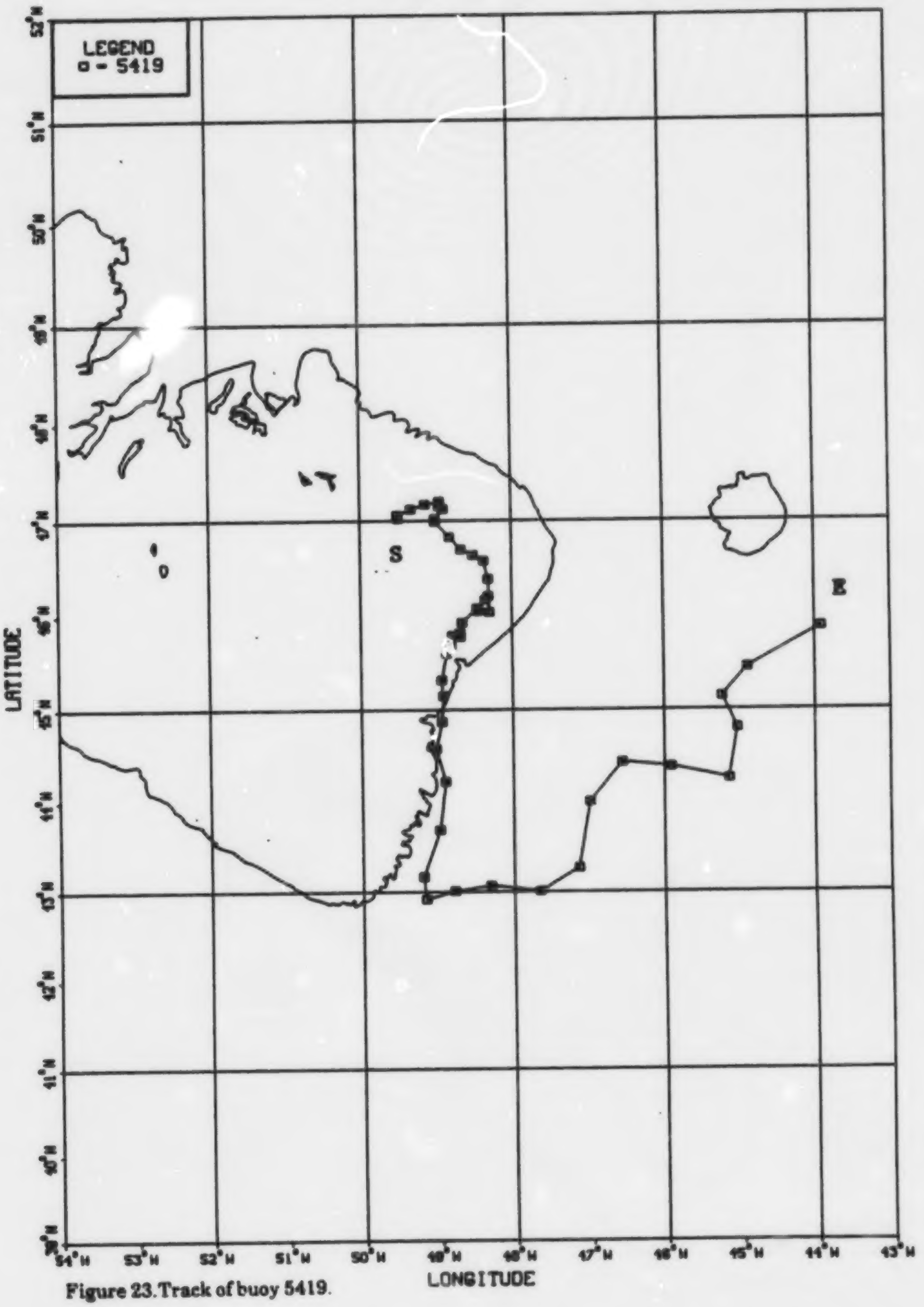


Figure 23. Track of buoy 5419.

BUOY TRACK

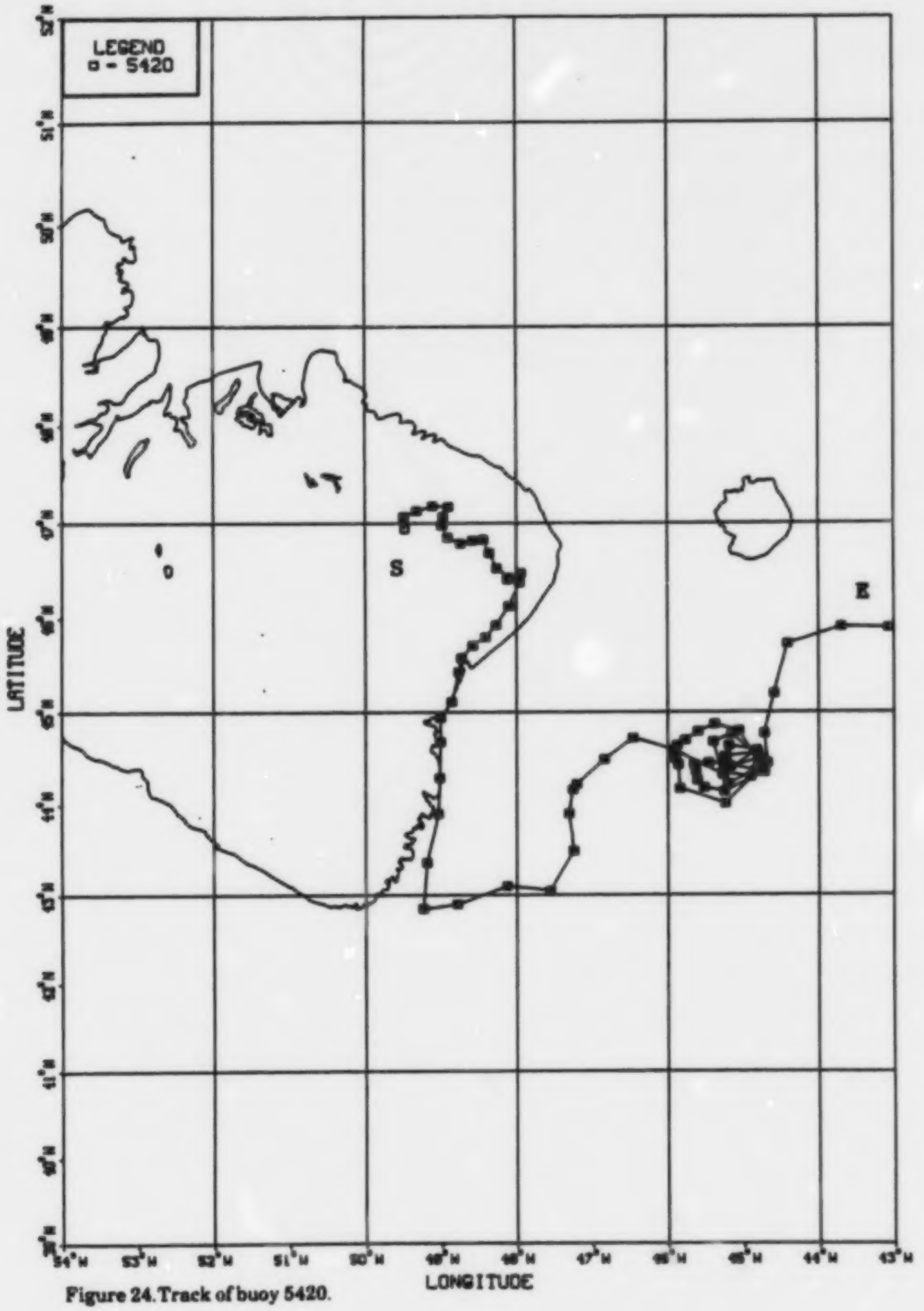


Figure 24. Track of buoy 5420.

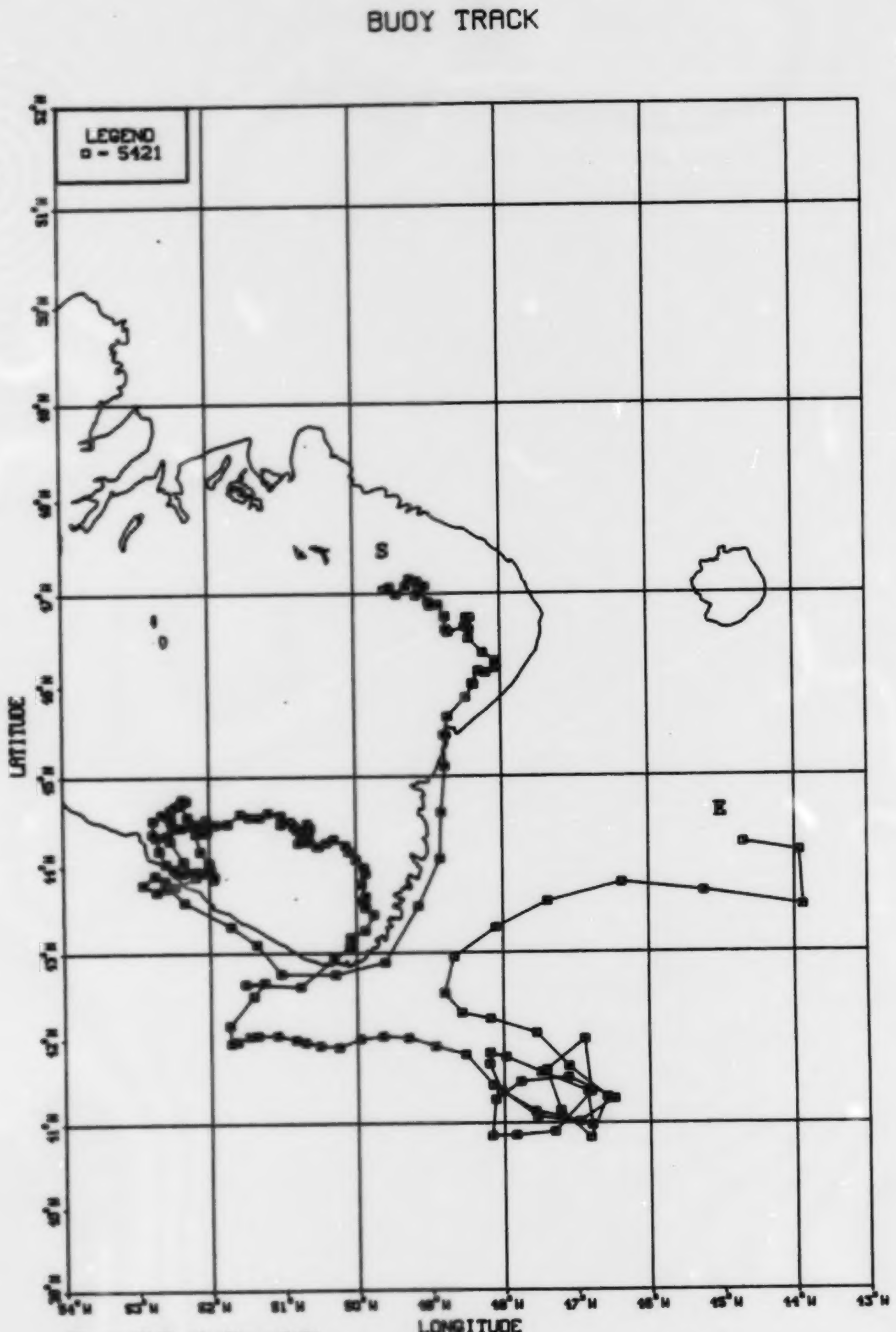


Figure 25. Track of buoy 5421.

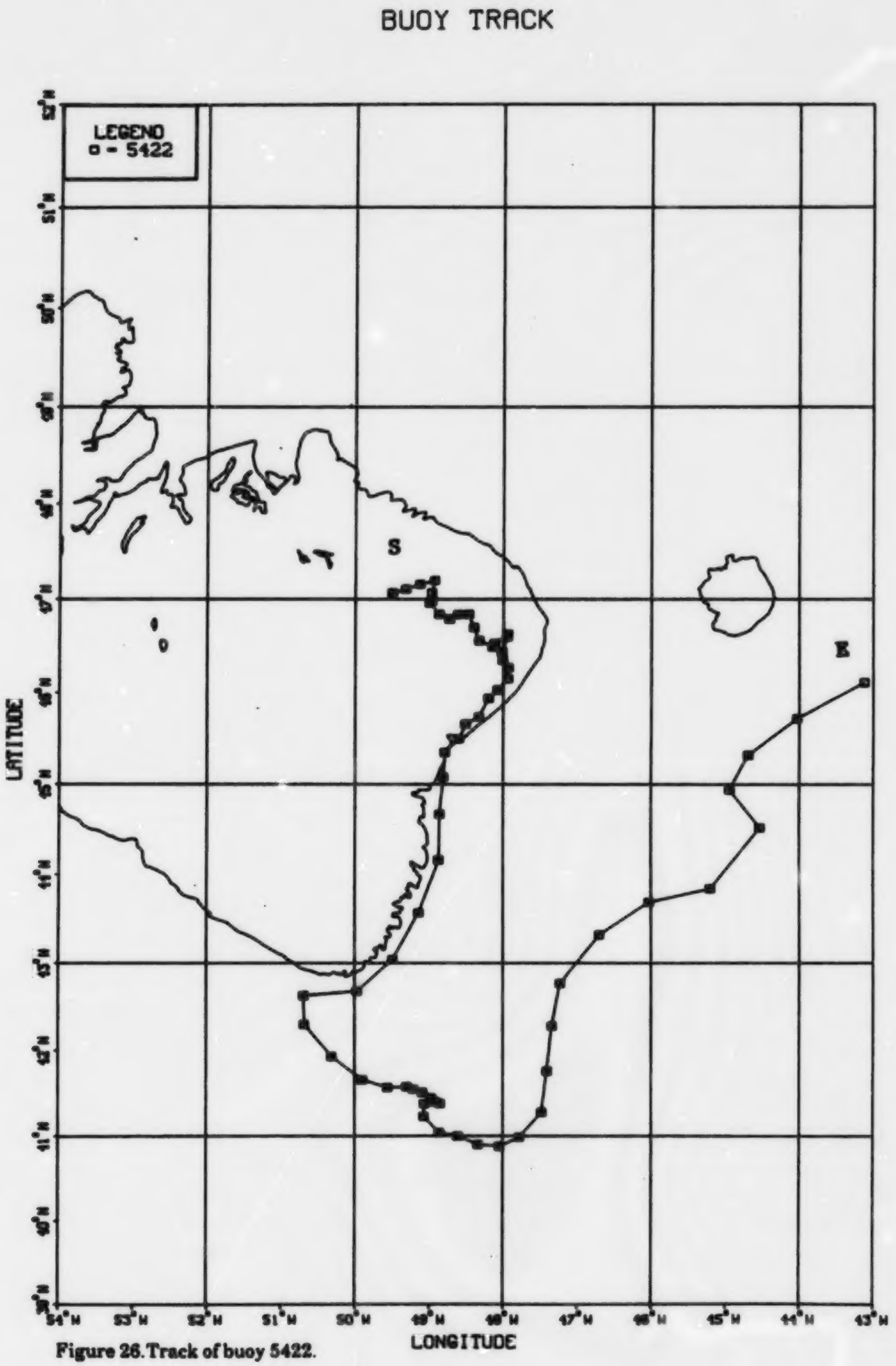


Figure 26. Track of buoy 5422.

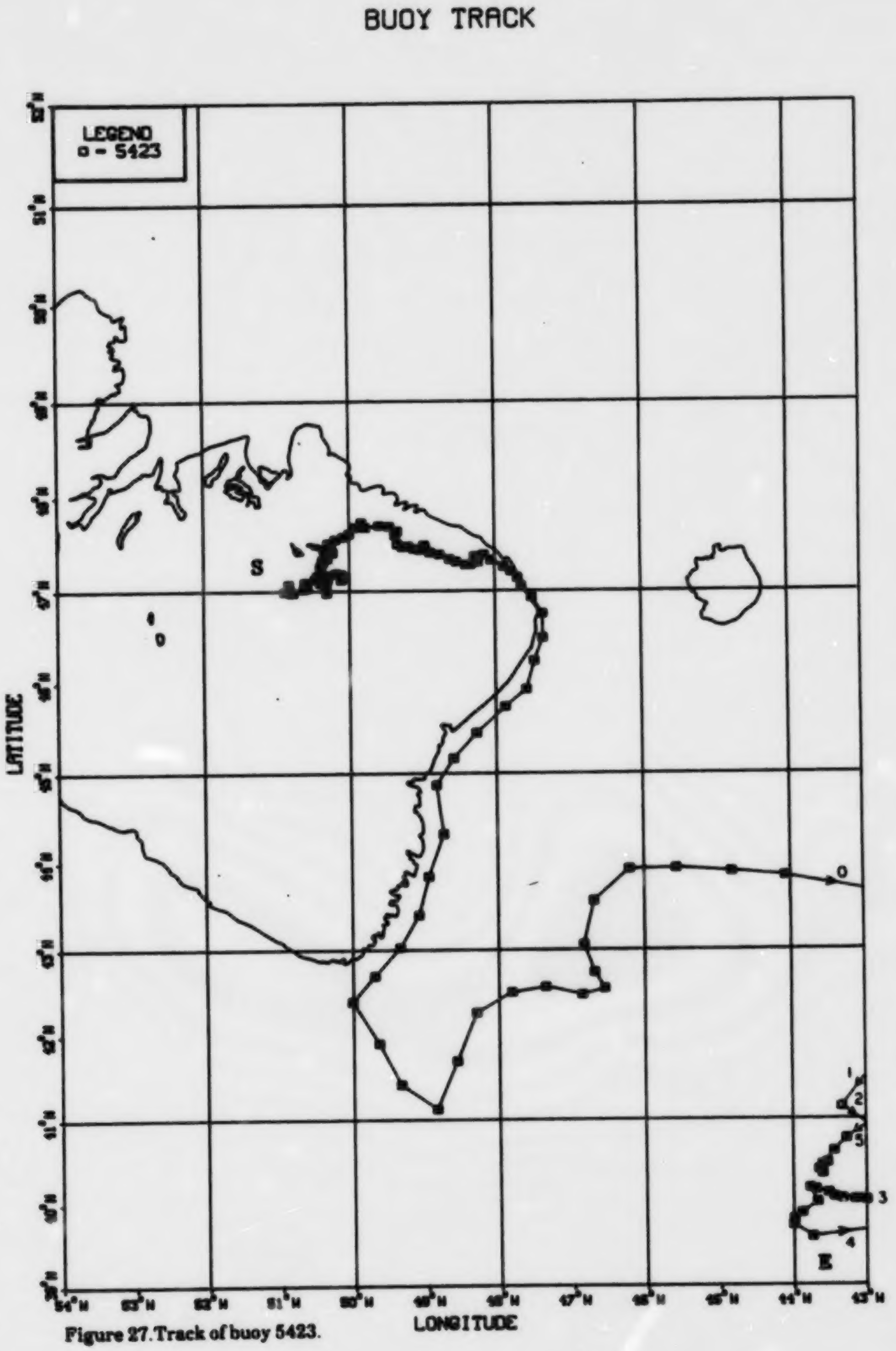


Figure 27. Track of buoy 5423.

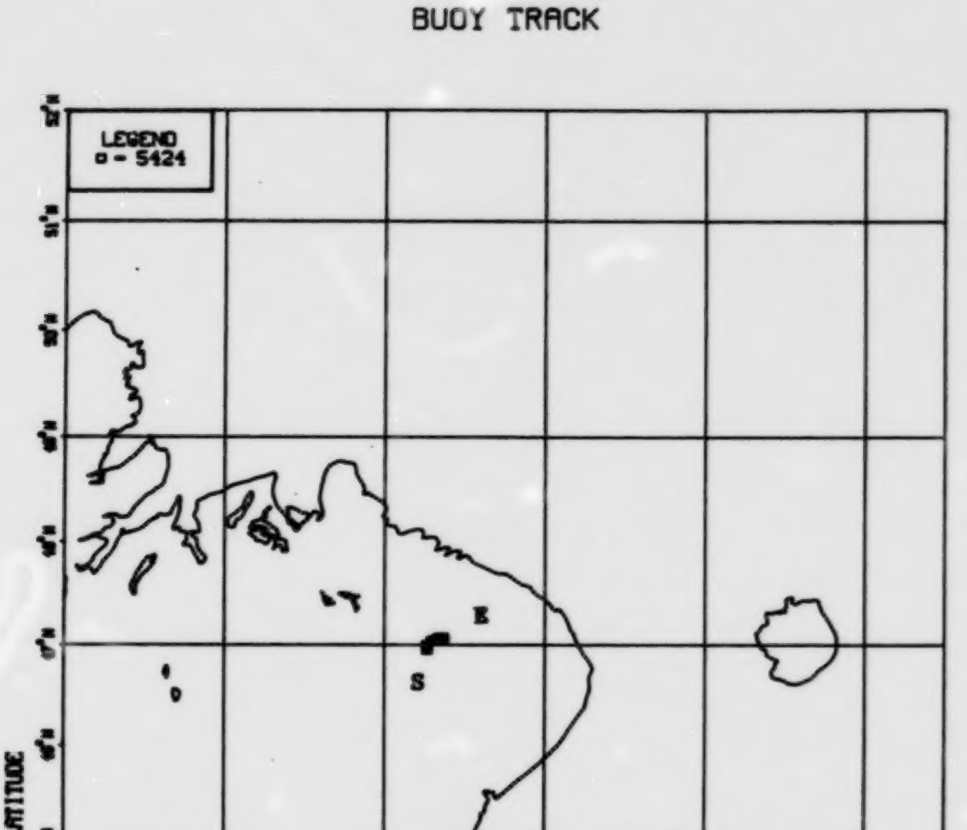


Figure 28. Track of buoy 5424.

BUOY TRACK

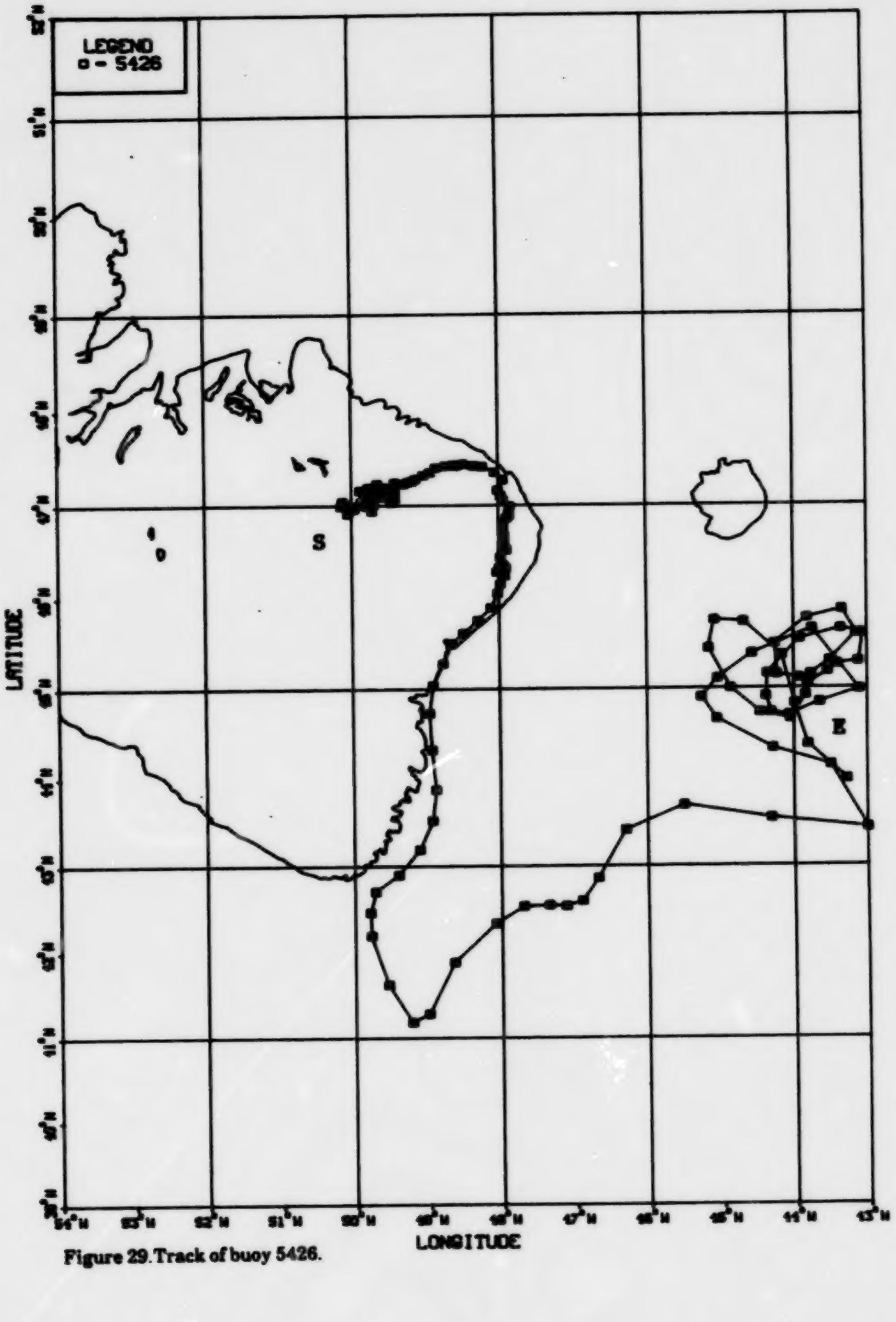


Figure 29. Track of buoy 5426.

BUOY TRACK

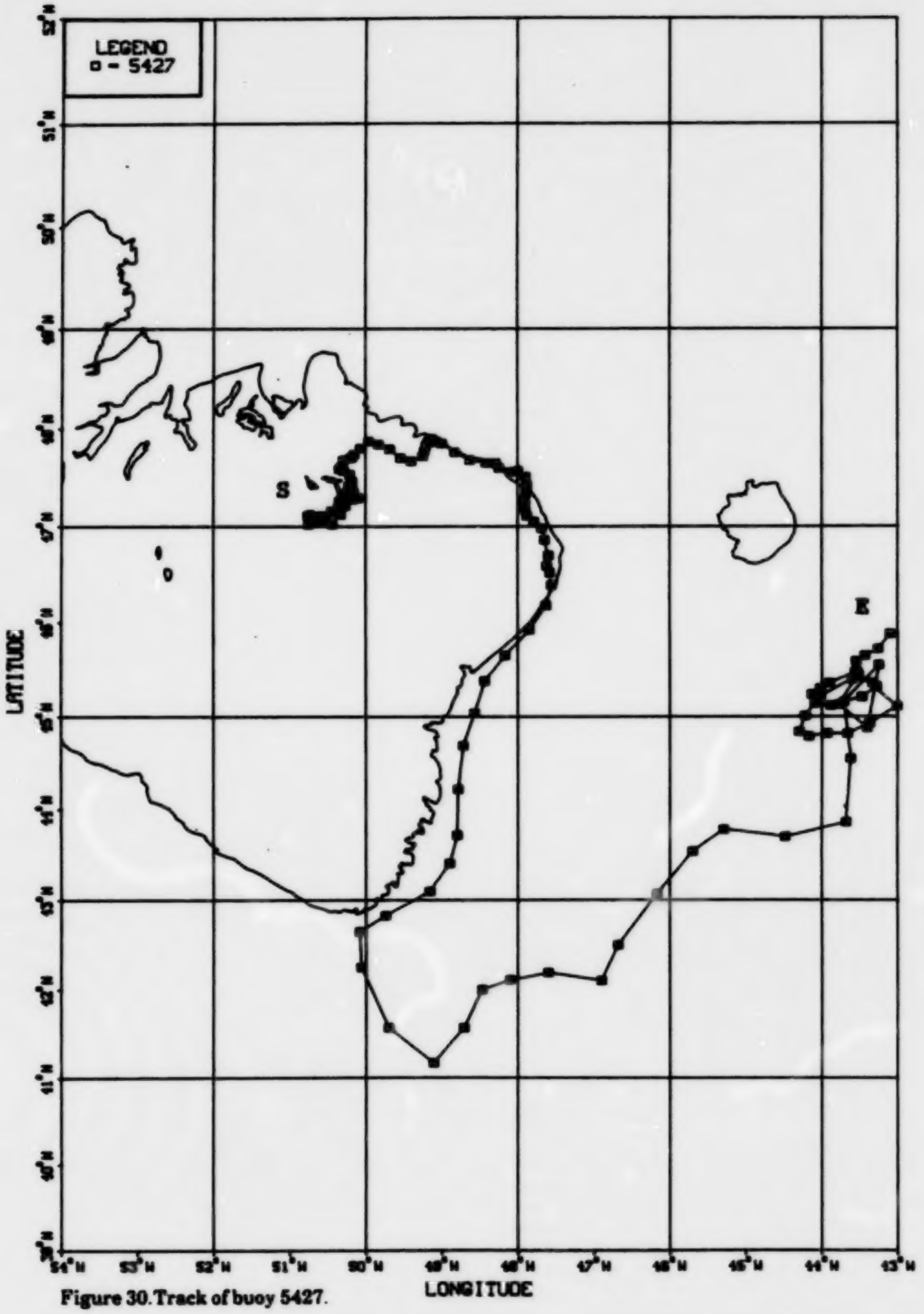


Figure 30. Track of buoy 5427.

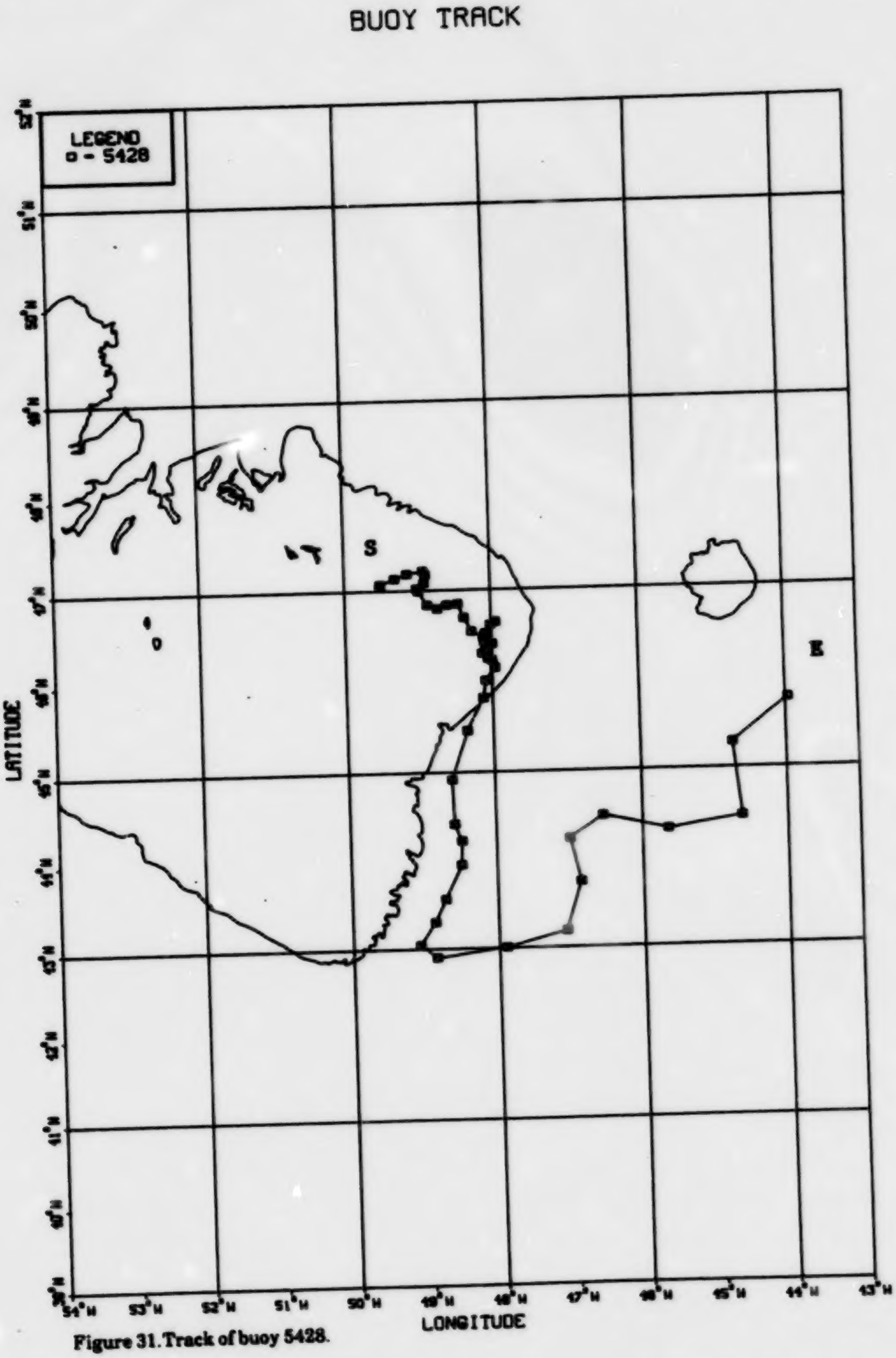


Figure 31. Track of buoy 5428.

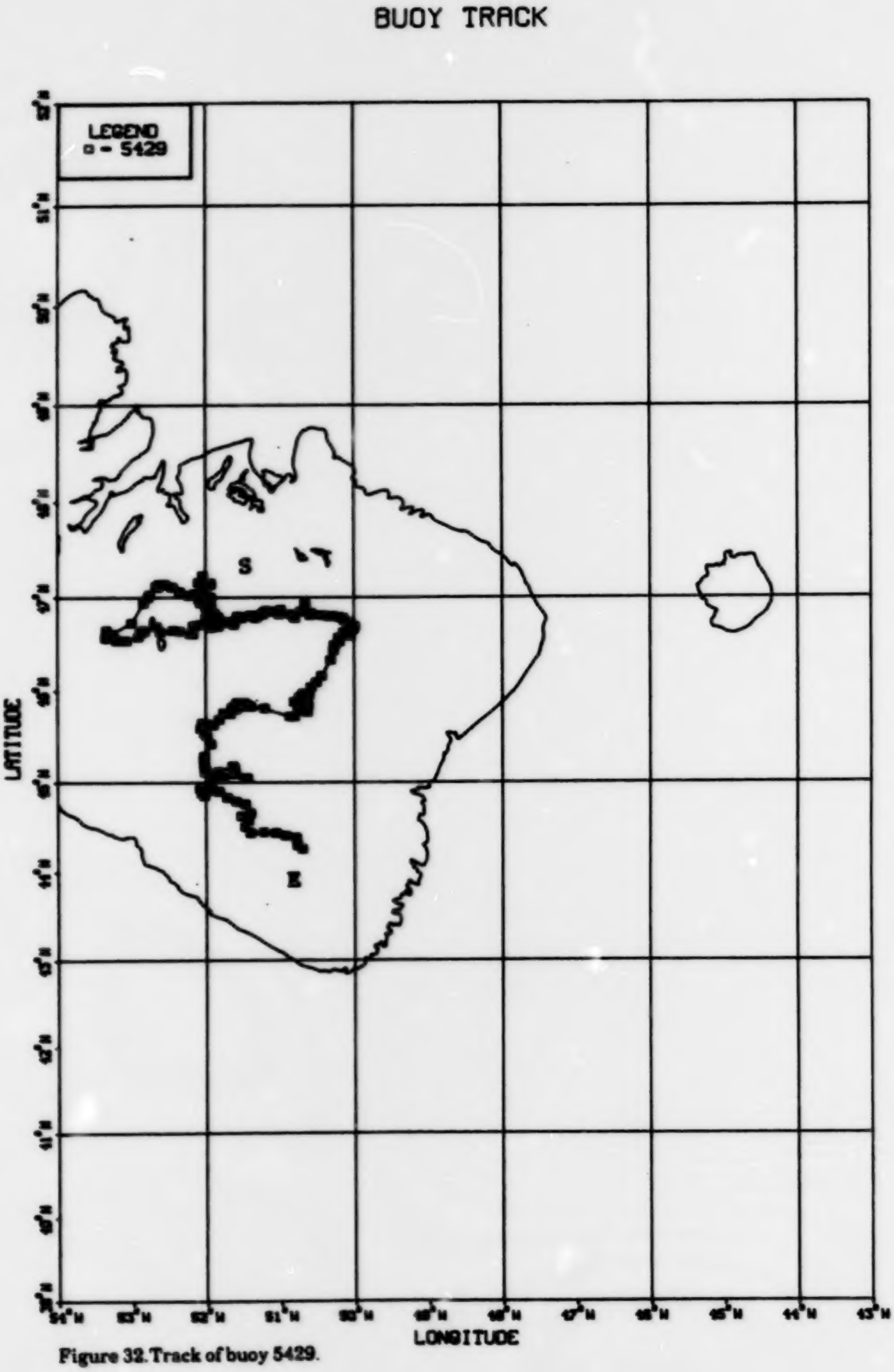


Figure 32. Track of buoy 5429.

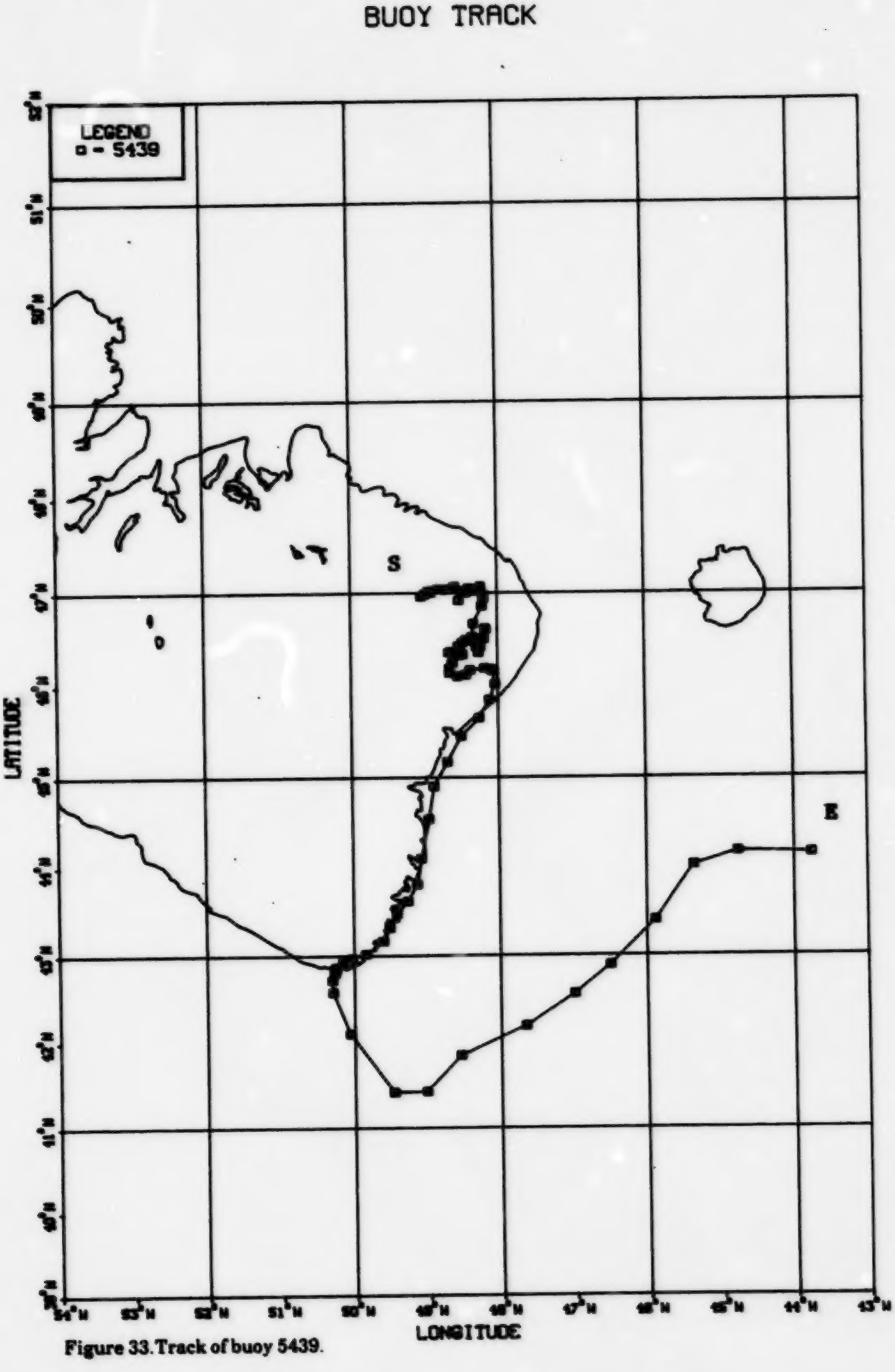


Figure 33. Track of buoy 5439.

Section 3

St. John's Sea Level

Index of Figures

		Page
Figure 1.	Time series of St. John's sea level barometric pressure (BP), sea level (SL) and adjusted sea level (ASL) for the period 1980 - 1986 based on filtered data.	228
Figure 2.	Time series of BP, SL and ASL for 1980.	229
Figure 3.	Time series of BP, SL and ASL for 1981.	230
Figure 4.	Time series of BP, SL and ASL for 1982.	231
Figure 5.	Time series of BP, SL and ASL for 1983.	232
Figure 6.	Time series of BP, SL and ASL for 1984.	233
Figure 7.	Time series of BP, SL and ASL for 1985.	234
Figure 8.	Time series of BP, SL and ASL for 1986.	235

Index of Tables

Table 1.	Histogram of SL based on the hourly data, 1980 - 1986.	236
Table 2.	Histogram of SL based on the filtered data, 1980 - 1986.	237
Table 3.	Histogram of ASL based on the hourly data, 1980 - 1986.	238
Table 4.	Histogram of ASL based on the filtered data, 1980 - 1986.	239
Table 5.	Statistics of hourly and filtered sea level and adjusted sea level.	240

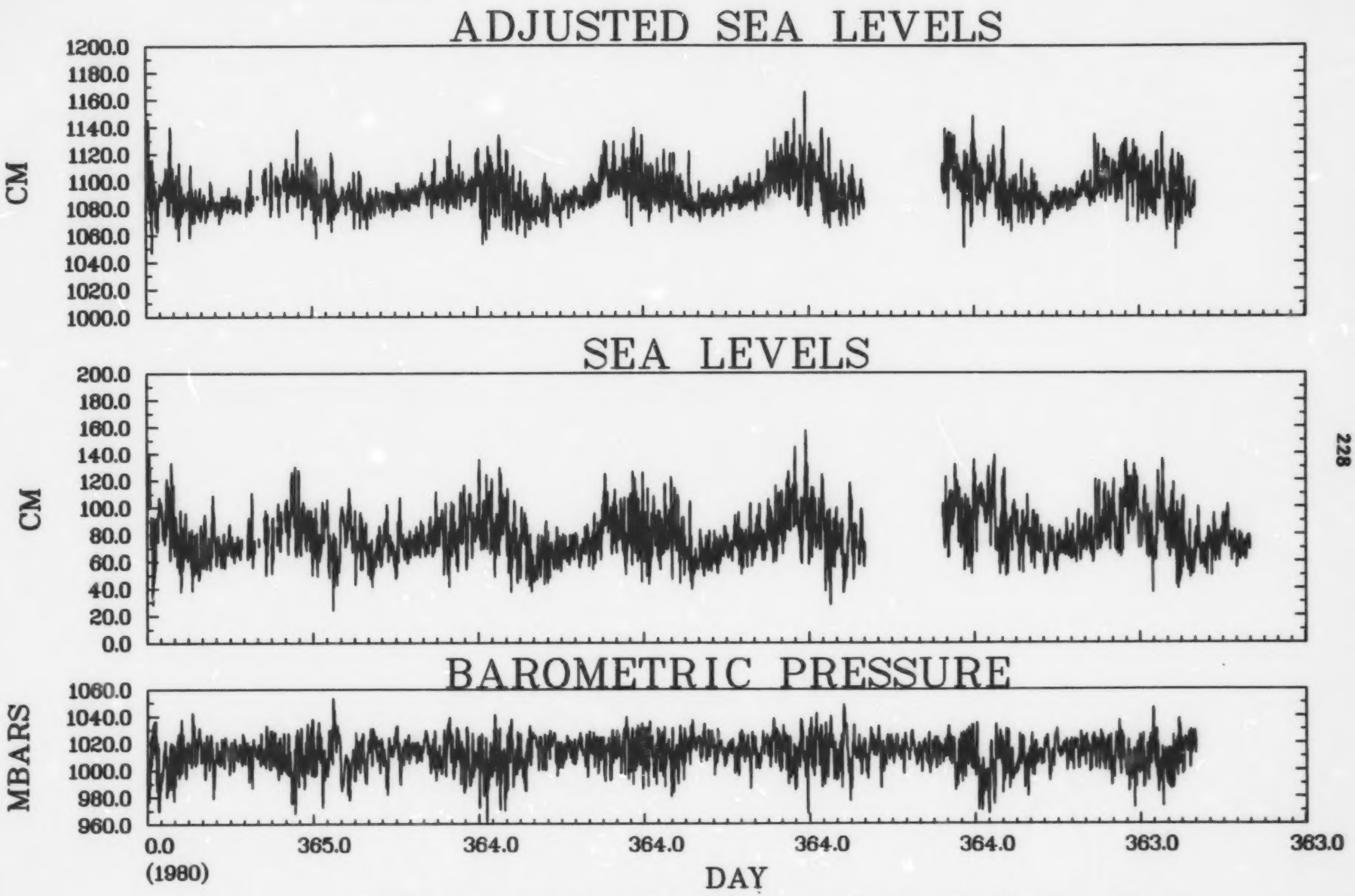


Figure 1. Time series of St. John's sea level barometric pressure (BP), sea level (SL) and adjusted sea level (ASL) for the period 1980 - 1986 based on filtered data.

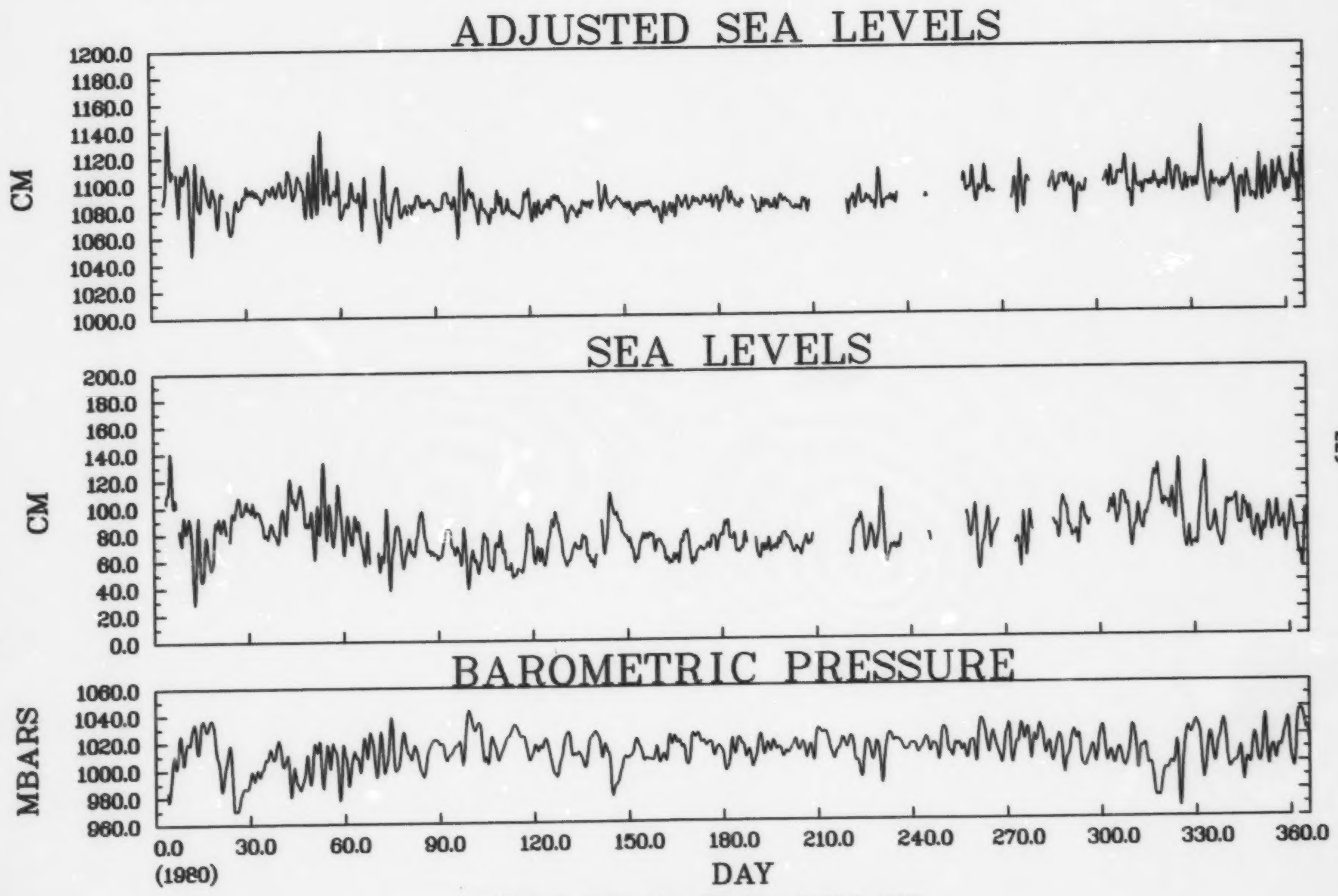


Figure 2. Time series of BP, SL and ASL for 1980.

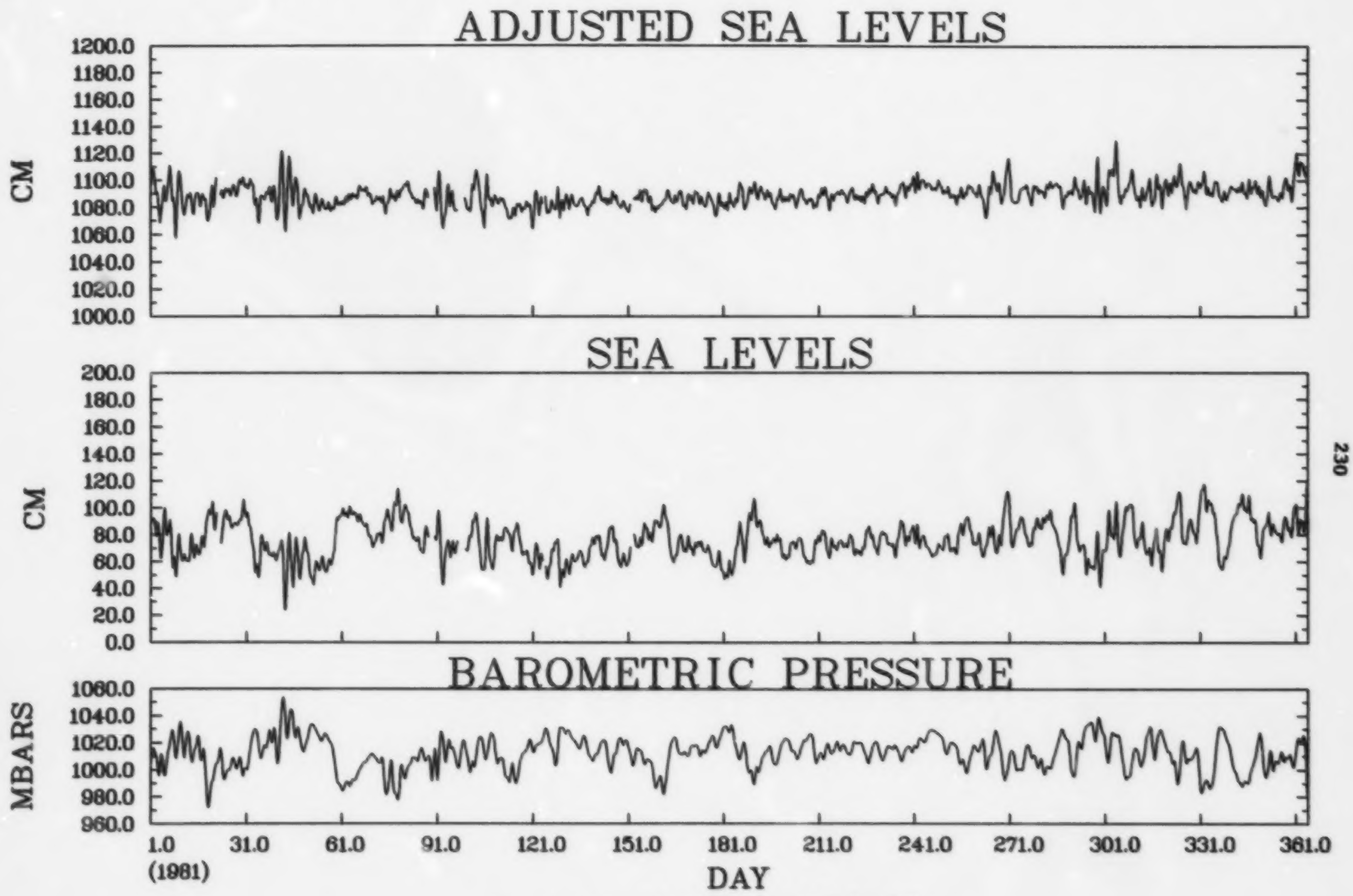


Figure 3. Time series of BP, SL and ASL for 1981.

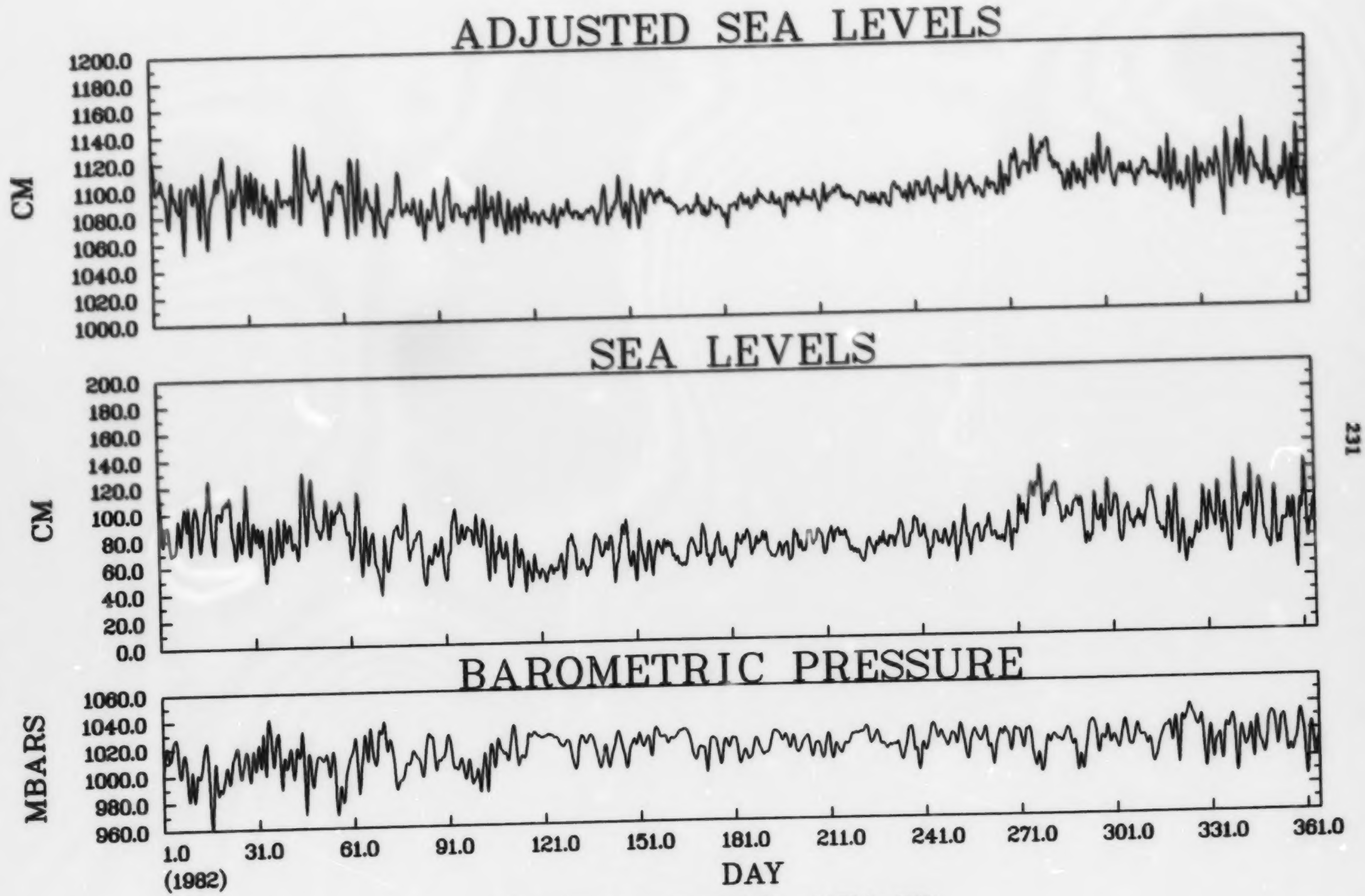


Figure 4. Time series of BP, SL and ASL for 1982.

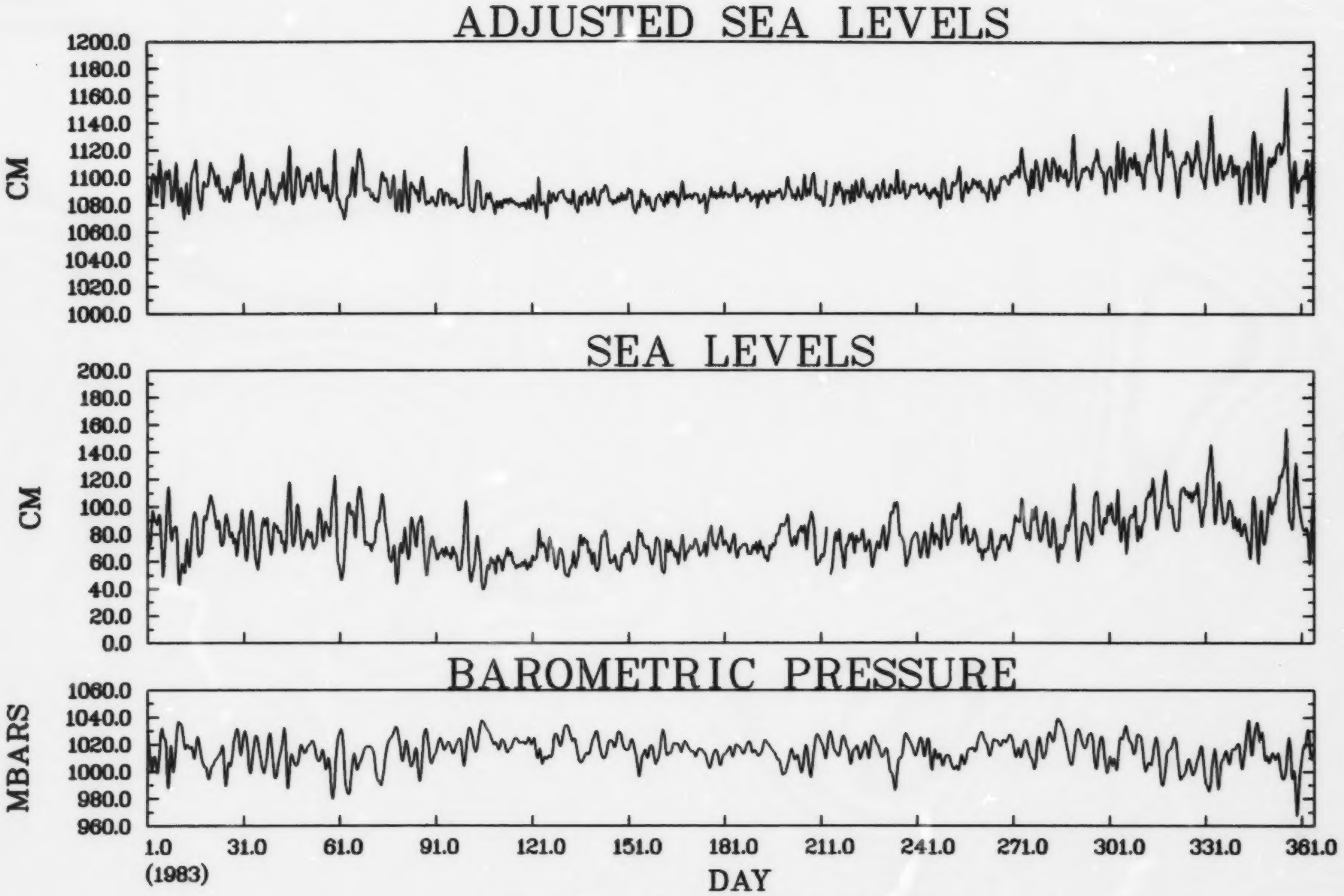


Figure 5. Time series of BP, SL and ASL for 1983.

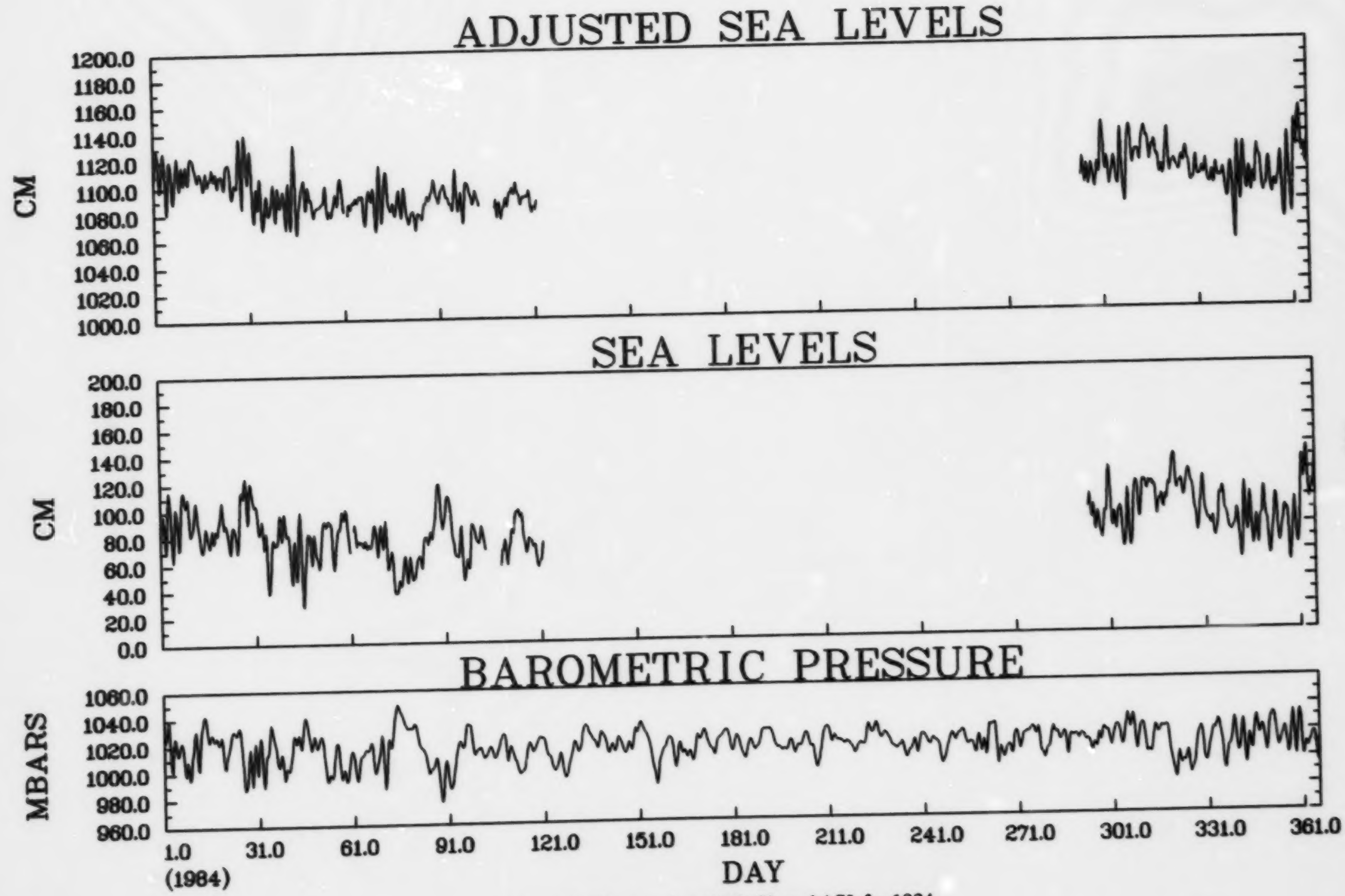


Figure 6. Time series of BP, SL and ASL for 1984.

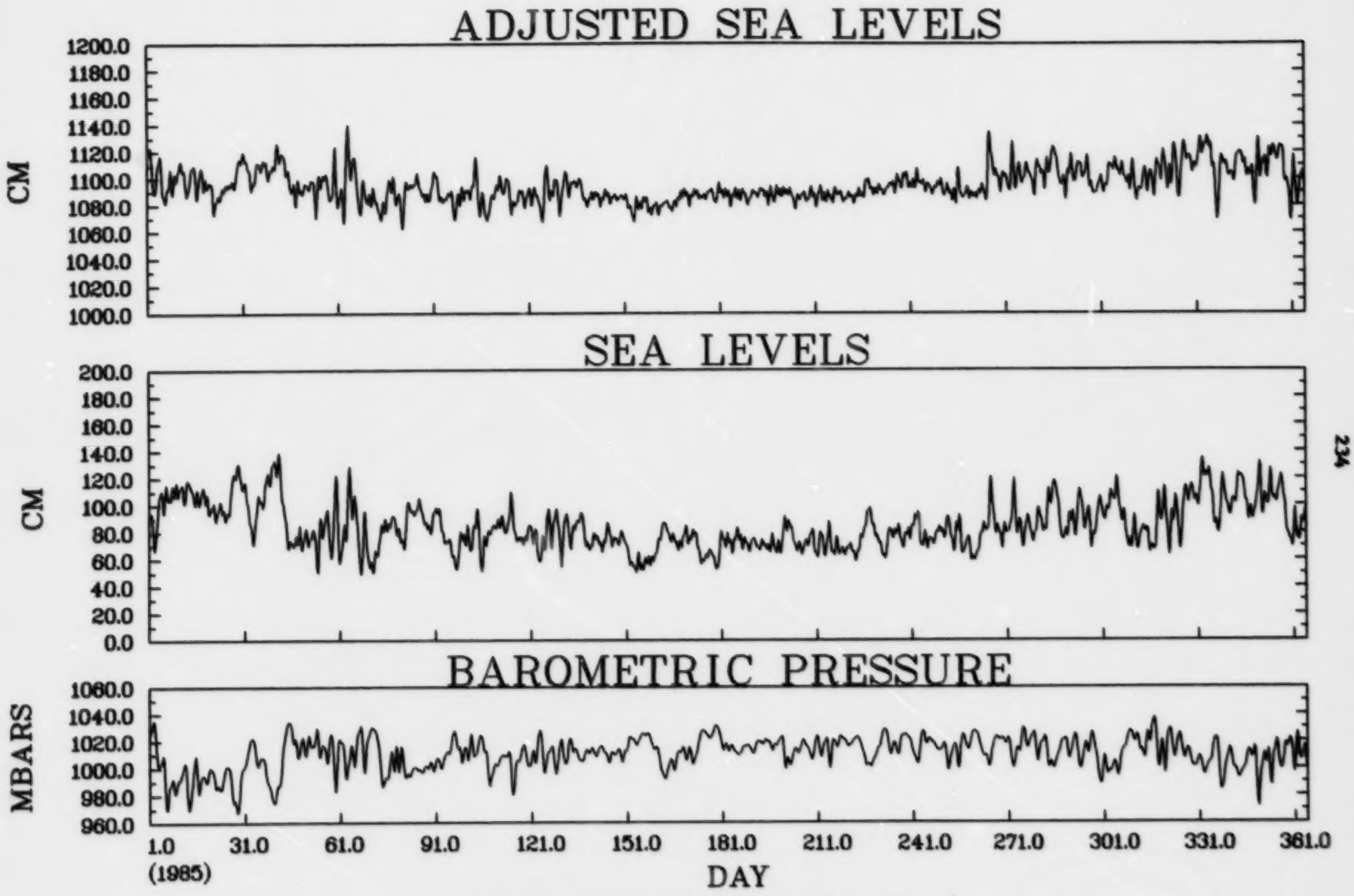


Figure 7. Time series of BP, SL and ASL for 1985.

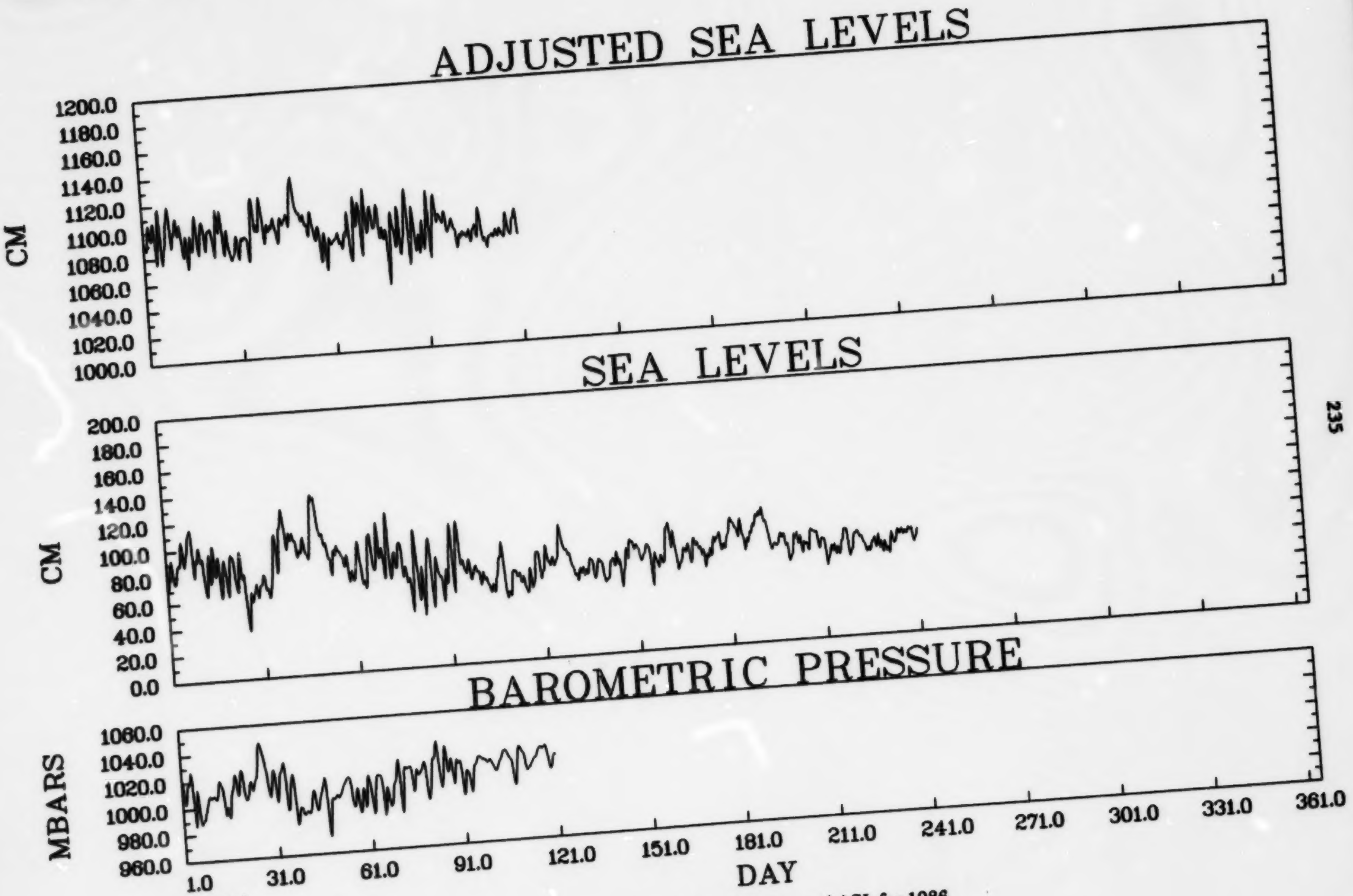
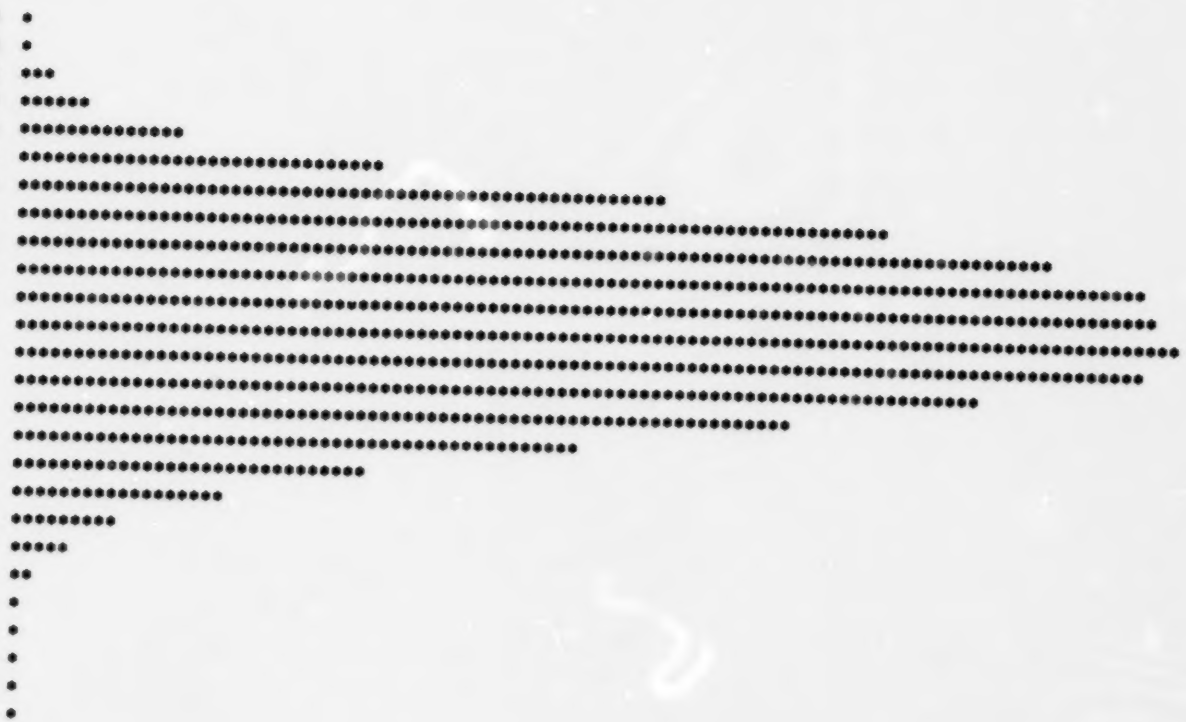


Figure 8. Time series of BP, SL and ASL for 1986.

HISTOGRAM OF SEA LEVELS (CM) AES DATA FOR ST. JOHN'S, NEWFOUNDLAND JAN. 1980 - DEC. 1986 (3600 SEC.)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT
-30.00	-20.00	3	.0
-20.00	-10.00	22	.0
-10.00	0.00	118	.2
0.00	10.00	335	.6
10.00	20.00	812	1.5
20.00	30.00	1793	3.4
30.00	40.00	3158	6.0
40.00	50.00	4279	8.1
50.00	60.00	5053	9.6
60.00	70.00	5534	10.5
70.00	80.00	5579	10.5
80.00	90.00	5722	10.8
90.00	100.00	5549	10.5
100.00	110.00	4753	9.0
110.00	120.00	3809	7.2
120.00	130.00	2738	5.2
130.00	140.00	1730	3.3
140.00	150.00	990	1.9
150.00	160.00	508	1.0
160.00	170.00	237	.4
170.00	180.00	94	.2
180.00	190.00	31	.1
190.00	200.00	8	.0
200.00	210.00	3	.0
210.00	220.00	1	.0
220.00	230.00	2	.0
230.00	240.00	0	0.0
240.00	250.00	0	0.0
250.00	260.00	0	0.0
260.00	270.00	0	0.0



TOTAL NO. OF CYCLES 58440
OUTSIDE RANGE 5579

TOTAL NO. OF SAMPLES 52861

Table 1. Histogram of SL based on the hourly data, 1980 - 1986.

HISTOGRAM OF SEA LEVELS (CM) AES DATA FOR ST. JOHN'S, NEWFOUNDLAND JAN. 1980 - DEC. 1986 (21600 SEC.)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT	
0.00	10.00	0	0.0	
10.00	20.00	0	0.0	
20.00	30.00	6	.1	*
30.00	40.00	19	.2	*
40.00	50.00	134	1.5	******
50.00	60.00	667	7.6	***************************
60.00	70.00	1733	19.8	**
70.00	80.00	2405	27.5	***
80.00	90.00	1668	19.0	***
90.00	100.00	1090	12.4	**
100.00	110.00	605	6.9	*************************
110.00	120.00	271	3.1	***********
120.00	130.00	119	1.4	*****
130.00	140.00	30	.3	**
140.00	150.00	6	.1	*
150.00	160.00	1	.0	*
160.00	170.00	0	0.0	
170.00	180.00	0	0.0	
180.00	190.00	0	0.0	
190.00	200.00	0	0.0	

TOTAL NO. OF CYCLES 9719

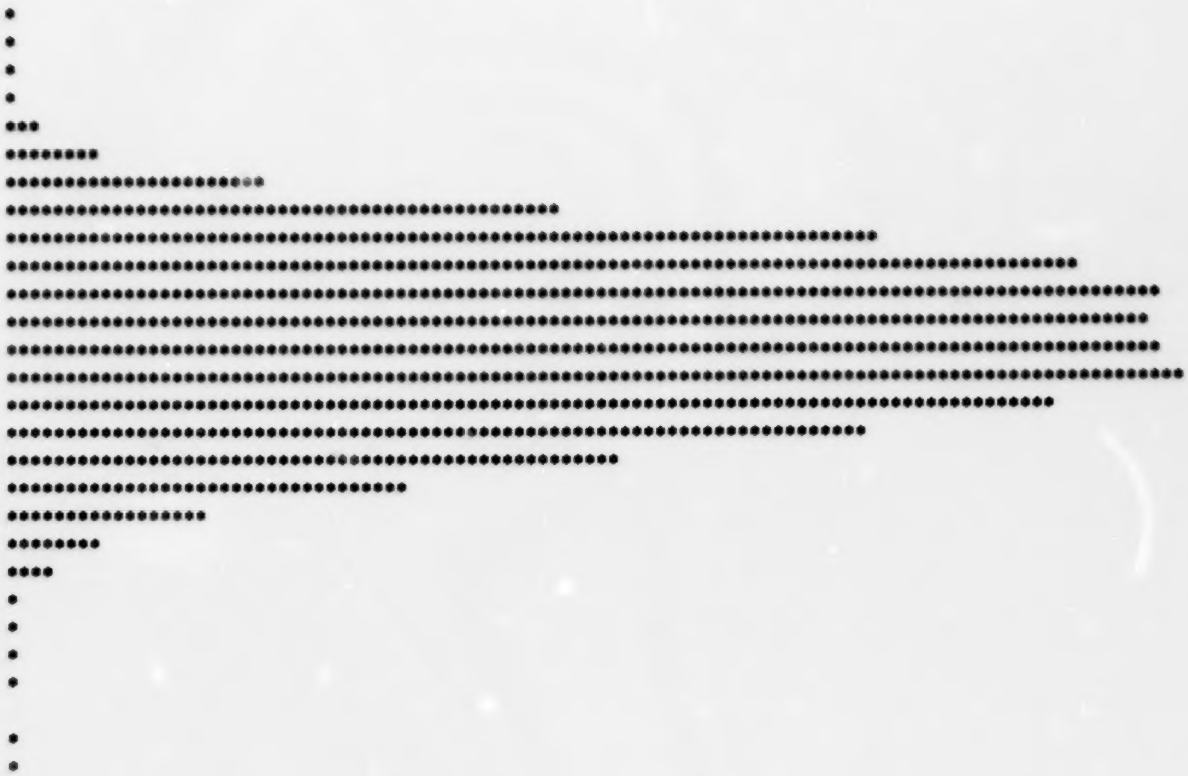
MISSING DATA 965

TOTAL NO. OF SAMPLES 8754

Table 2. Histogram of SL based on the filtered data, 1980 - 1986.

HISTOGRAM OF ADJUSTED SEA LEVELS (CM) AES DATA FOR ST. JOHN'S, NEWFOUNDLAND JAN. 1980 - DEC. 1986 (3600 SEC.)

BAND .GE.	BAND .LT.	NUMBER IN BAND	PER CENT
960.00	970.00	0	0.0
970.00	980.00	1	.0
980.00	990.00	1	.0
990.00	1000.00	4	.0
1000.00	1010.00	28	.1
1010.00	1020.00	113	.2
1020.00	1030.00	436	.9
1030.00	1040.00	1201	2.4
1040.00	1050.00	2545	5.1
1050.00	1060.00	4031	8.1
1060.00	1070.00	4963	9.9
1070.00	1080.00	5338	10.7
1080.00	1090.00	5312	10.6
1090.00	1100.00	5385	10.8
1100.00	1110.00	5447	10.9
1110.00	1120.00	4857	9.7
1120.00	1130.00	3975	8.0
1130.00	1140.00	2849	5.7
1140.00	1150.00	1831	3.7
1150.00	1160.00	931	1.9
1160.00	1170.00	419	.8
1170.00	1180.00	173	.3
1180.00	1190.00	46	.1
1190.00	1200.00	14	.0
1200.00	1210.00	5	.0
1210.00	1220.00	1	.0
1220.00	1230.00	0	0.0
1230.00	1240.00	2	.0
1240.00	1250.00	1	.0
1250.00	1260.00	0	0.0



TOTAL NO. OF CYCLES 55488
MISSING DATA 5579

TOTAL NO. OF SAMPLES 49909

Table 3. Histogram of ASL based on the hourly data, 1980 - 1986.

```
HISTOGRAM OF ADJUSTED SEA LEVELS    ( CM )   AES DATA FOR ST. JOHN'S, NEWFOUNDLAND    JAN. 1980 - DEC. 1986    ( 21600 SEC.)

      BAND       NUMBER  PER
  .GE.     .LT.  IN BAND CENT

1000.00 1010.00     0    0.0
1010.00 1020.00     0    0.0
1020.00 1030.00     0    0.0
1030.00 1040.00     0    0.0
1040.00 1050.00     2     .0 *
1050.00 1060.00    15     .2 *
1060.00 1070.00   115    1.4 ****
1070.00 1080.00   900   10.9 *******************************
1080.00 1090.00  2980   36.0 ****************************************************************************************************
1090.00 1100.00  2338   28.3 *******************************************************************************
1100.00 1110.00  1151   13.9 ***************************************
1110.00 1120.00   520    6.3 ******************
1120.00 1130.00   181    2.2 *******
1130.00 1140.00    59     .7 **
1140.00 1150.00     9     .1 *
1150.00 1160.00     0    0.0
1160.00 1170.00     2     .0 *
1170.00 1180.00     0    0.0
1180.00 1190.00     0    0.0
1190.00 1200.00     0    0.0

TOTAL NO. OF CYCLES     9237
MISSING DATA             965

TOTAL NO. OF SAMPLES    8272
```

Table 4. Histogram of ASL based on the filtered data, 1980 - 1986.

AES DATA FOR ST. JOHN'S, NEWFOUNDLAND JAN. 1980 - DEC. 1986 SAMPLE INTERVAL : 3600 SEC.

BAROMETRIC PRESS				SEA LEVELS				ADJUSTED SEA LEVELS			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
1013.0	1055.0	954.3	11.4	79.5	266.0	-25.0	33.0	1092.0	1242.0	979.5	31.3

AES DATA FOR ST. JOHN'S, NEWFOUNDLAND JAN. 1980 - DEC. 1986 SAMPLE INTERVAL : 21600 SEC.

BAROMETRIC PRESS				SEA LEVELS				ADJUSTED SEA LEVELS			
MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV	MEAN	MAX	MIN	STDEV
1013.0	1054.0	960.5	11.3	79.6	157.3	24.0	16.4	1092.0	1166.0	1047.0	12.4

Table 5. Statistics of hourly and filtered sea level and adjusted sea level.

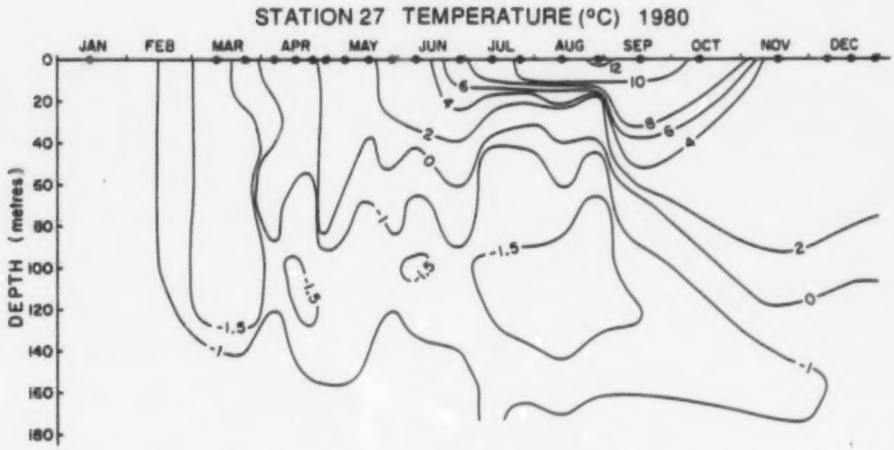
Section 4

Station 27 Temperature and Salinity

1980-1986

Index of Figures

		Page
Figure 1.	Contours of temperature and salinity at Sta. 27, 1980. Observations are indicated by a dot.	243
Figure 2.	Contours of temperature and salinity at Sta. 27, 1981. Observations are indicated by a dot.	244
Figure 3.	Contours of temperature and salinity at Sta. 27, 1982. Observations are indicated by a dot.	245
Figure 4.	Contours of temperature and salinity at Sta. 27, 1983. Observations are indicated by a dot.	246
Figure 5.	Contours of temperature and salinity at Sta. 27, 1984. Observations are indicated by a dot.	247
Figure 6.	Contours of temperature and salinity at Sta. 27, 1985. Observations are indicated by a dot.	248
Figure 7.	Contours of temperature and salinity at Sta. 27, 1986. Observations are indicated by a dot.	249



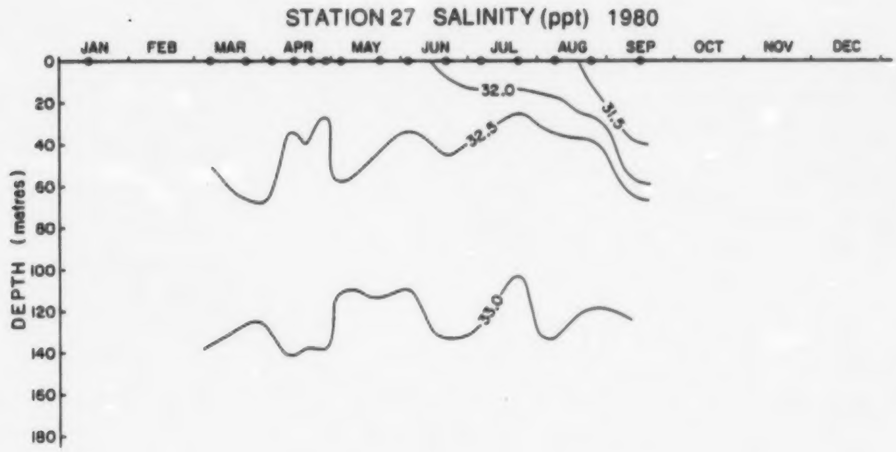


Figure 1. **Contours of temperature and salinity at Sta. 27, 1980. Observations are indicated by a dot.**

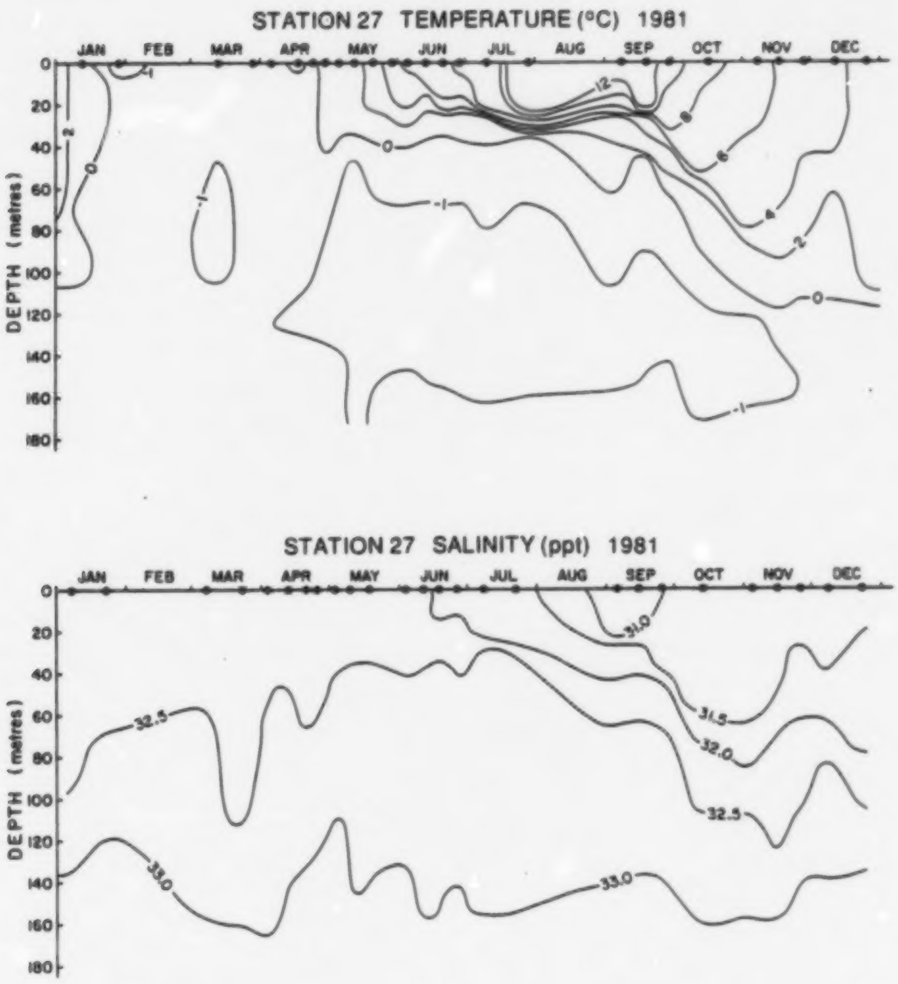


Figure 2. **Contours of temperature and salinity at Sta. 27, 1981. Observations are indicated by a dot.**

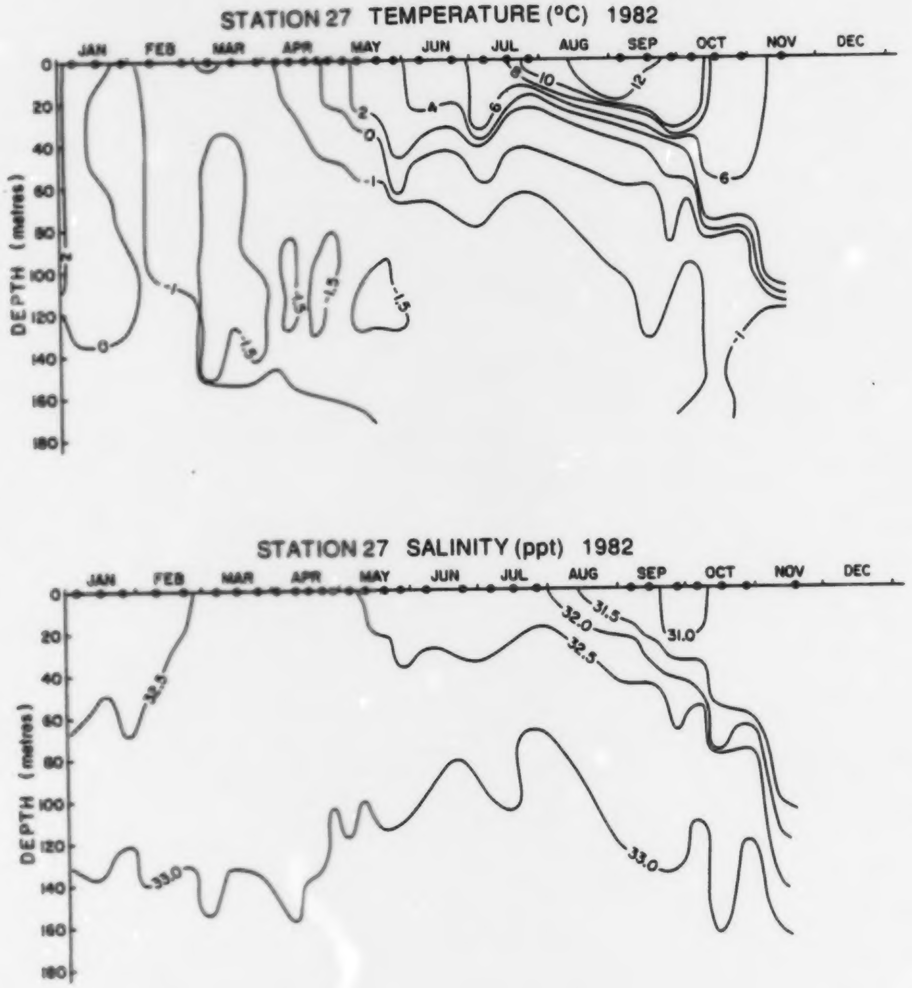
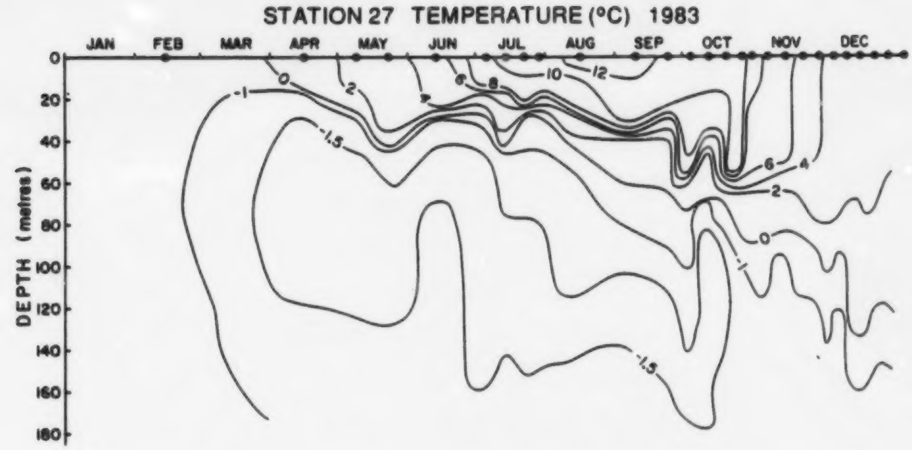


Figure 3. Contours of temperature and salinity at Sta. 27, 1982. Observations are indicated by a dot.



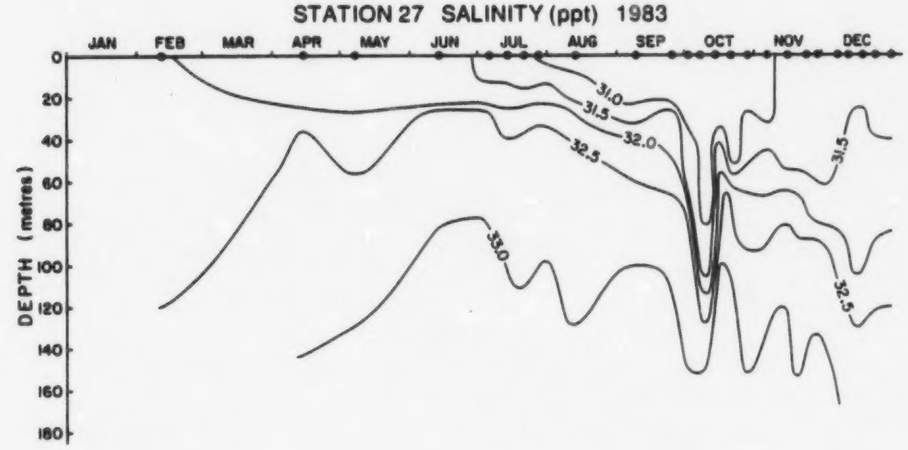
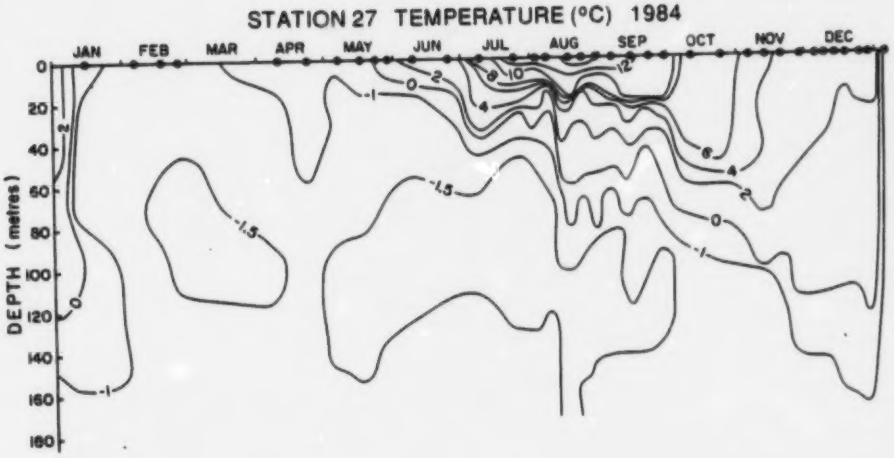


Figure 4. Contours of temperature and salinity at Sta. 27, 1983. Observations are indicated by a dot.



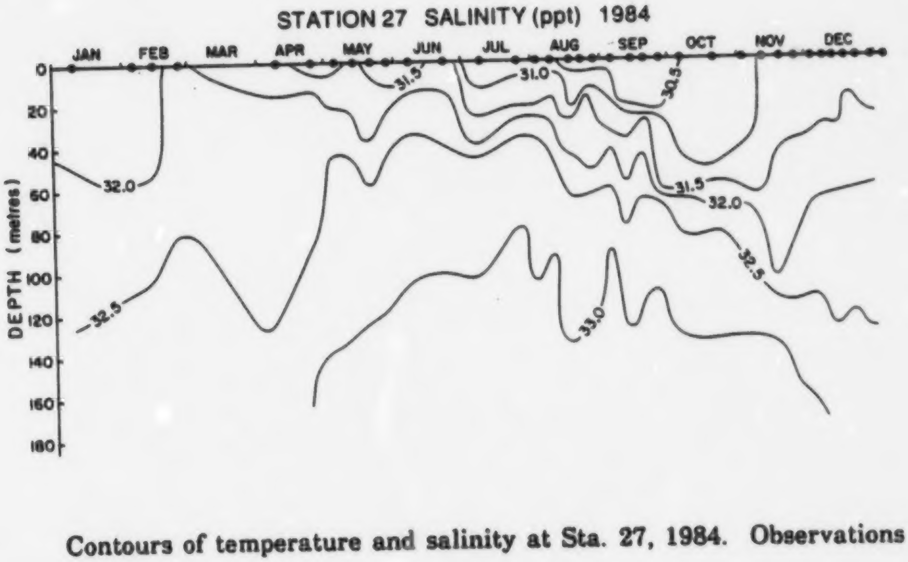
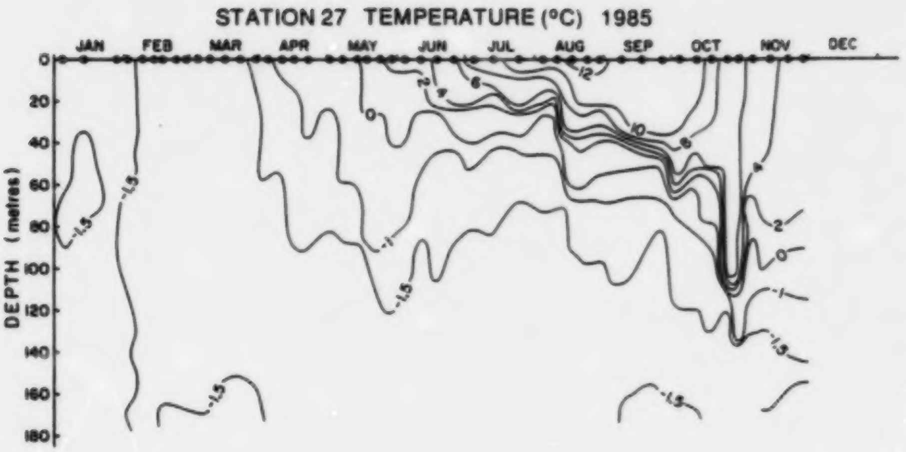


Figure 5. Contours of temperature and salinity at Sta. 27, 1984. Observations are indicated by a dot.



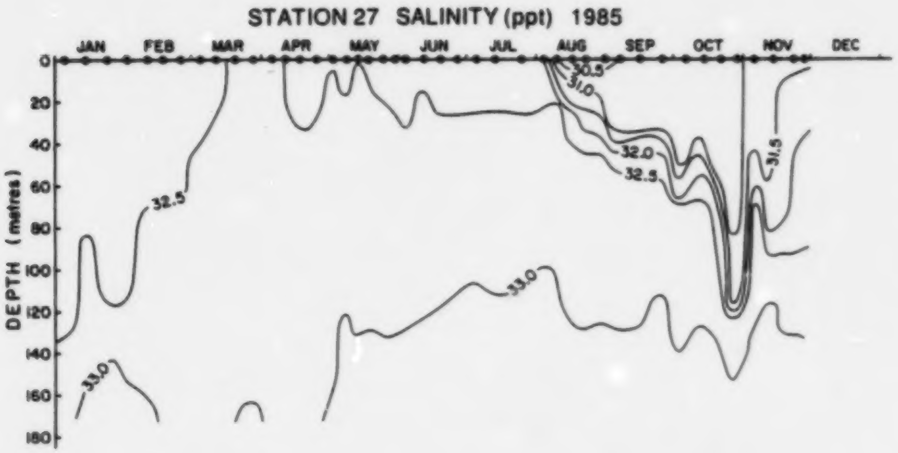


Figure 6. Contours of temperature and salinity at Sta. 27, 1985. Observations are indicated by a dot.

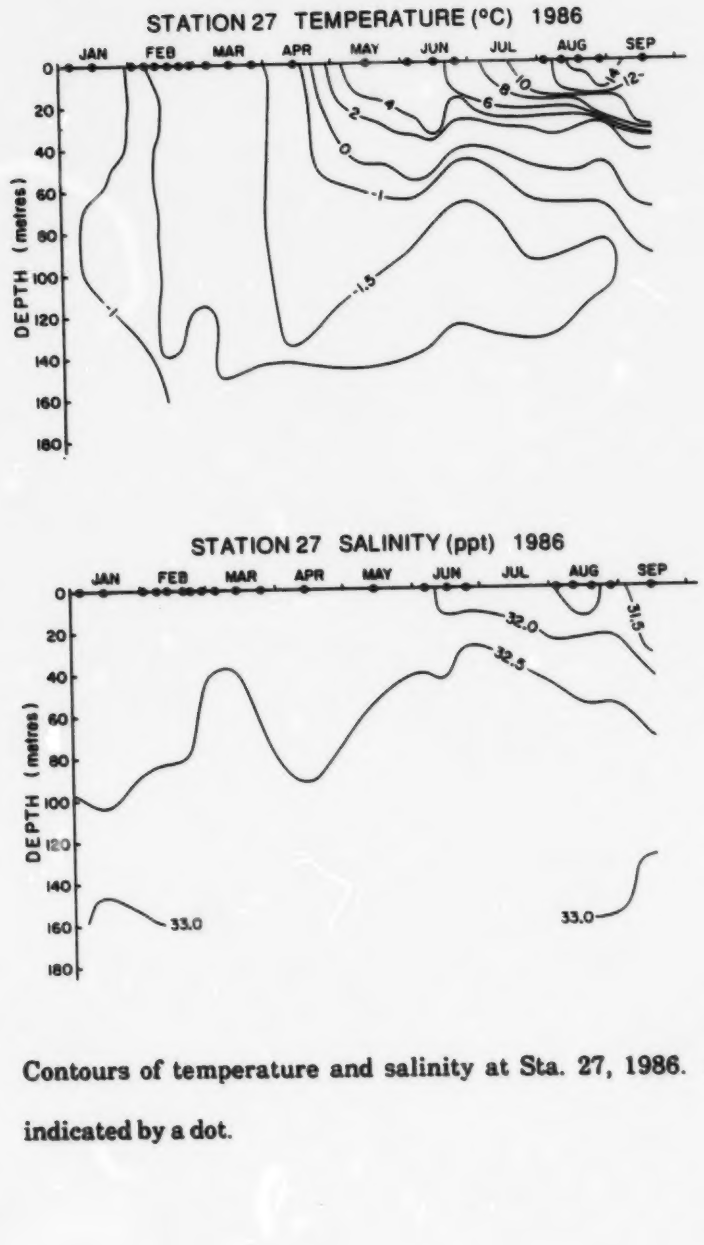


Figure 7. Contours of temperature and salinity at Sta. 27, 1986. Observations are indicated by a dot.

Section 5

St. John's Wind Data

Index of Figures

		Page
Figure 1.	Wind speed and direction at St. John's, 1980, based on hourly data. Wind direction is given as the direction wind is blowing towards.	253
Figure 2.	Wind speed and direction at St. John's, 1981, based on hourly data.	254
Figure 3.	Wind speed and direction at St. John's, 1982, based on hourly data.	255
Figure 4.	Wind speed and direction at St. John's, 1983, based on hourly data.	256
Figure 5.	Wind speed and direction at St. John's, 1984, based on hourly data.	257
Figure 6.	Wind speed and direction at St. John's, 1985, based on hourly data.	258
Figure 7.	Wind speed and direction at St. John's, 1986, based on hourly data.	259
Figure 8.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1980, based on filtered data.	260
Figure 9.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1981, based on filtered data.	261
Figure 10.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1982, based on filtered data.	262
Figure 11.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1983, based on filtered data.	263
Figure 12.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1984, based on filtered data.	264
Figure 13.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1985, based on filtered data.	265
Figure 14.	Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1986, based on filtered data.	266

Index of Figures | Page

Figure 15. Progressive vector diagram of wind, 1980 - 1986, based on filtered data. Crosses mark one year intervals. 267

Figure 16. Scatter plot of U-V components of wind, 1980 - 1986, based on filtered data. 268

Index of Tables | Page

Table 1. Histogram of wind speed based on hourly data. 269

Table 2. Histogram of wind speed based on filtered data. 270

Figure 1. Wind speed and direction at St. John's, 1980, based on hourly data.

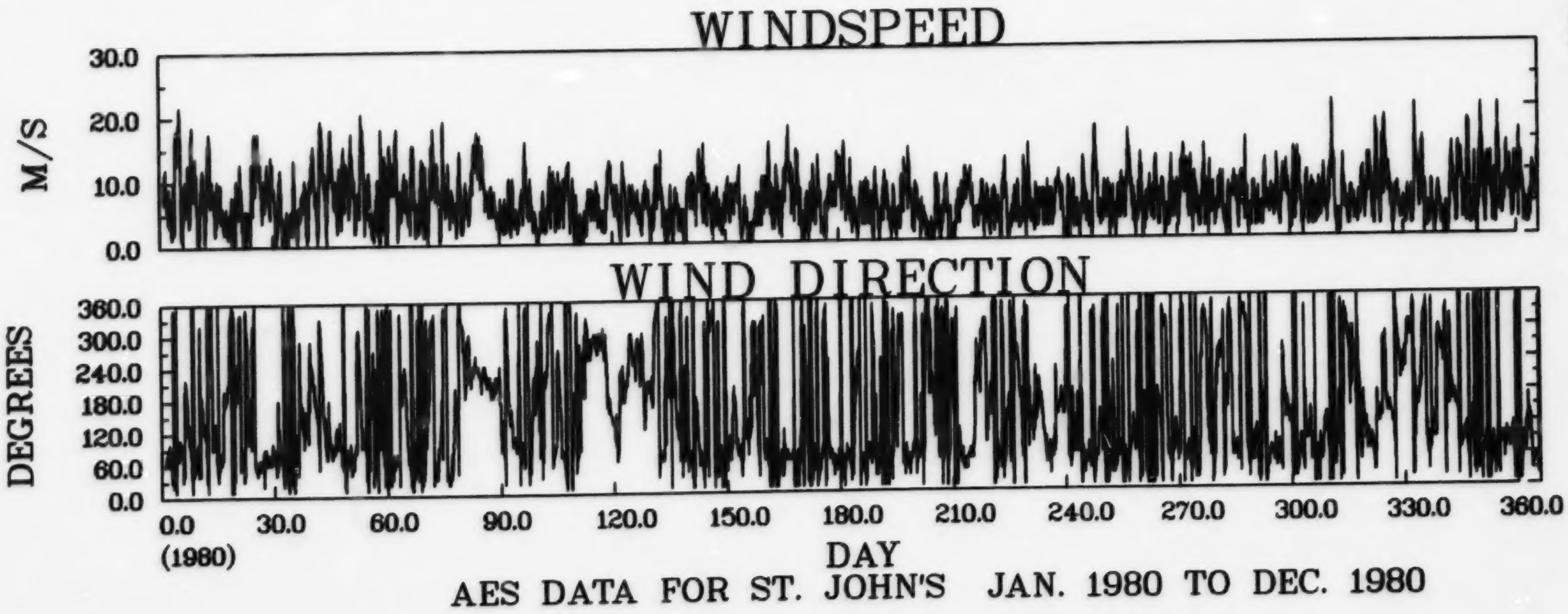


Figure 2. Wind speed and direction at St. John's, 1981, based on hourly data.

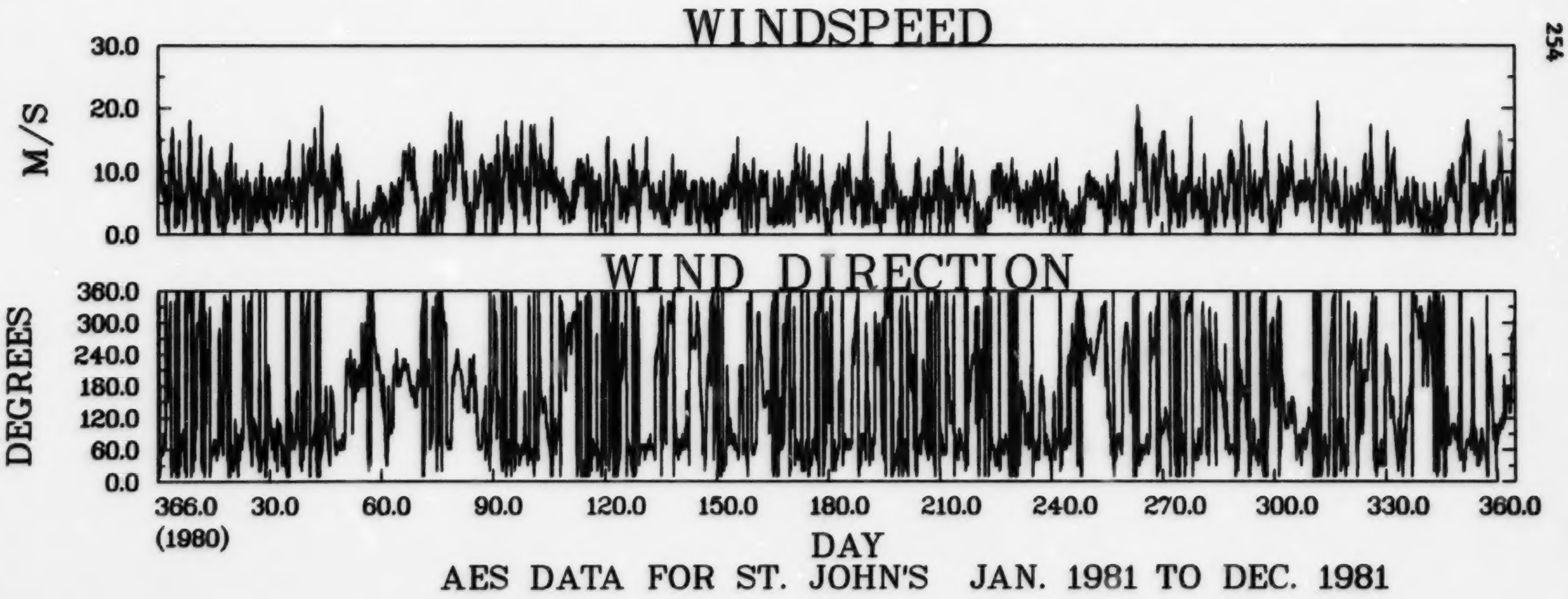


Figure 3. Wind speed and direction at St. John's, 1982, based on hourly data.

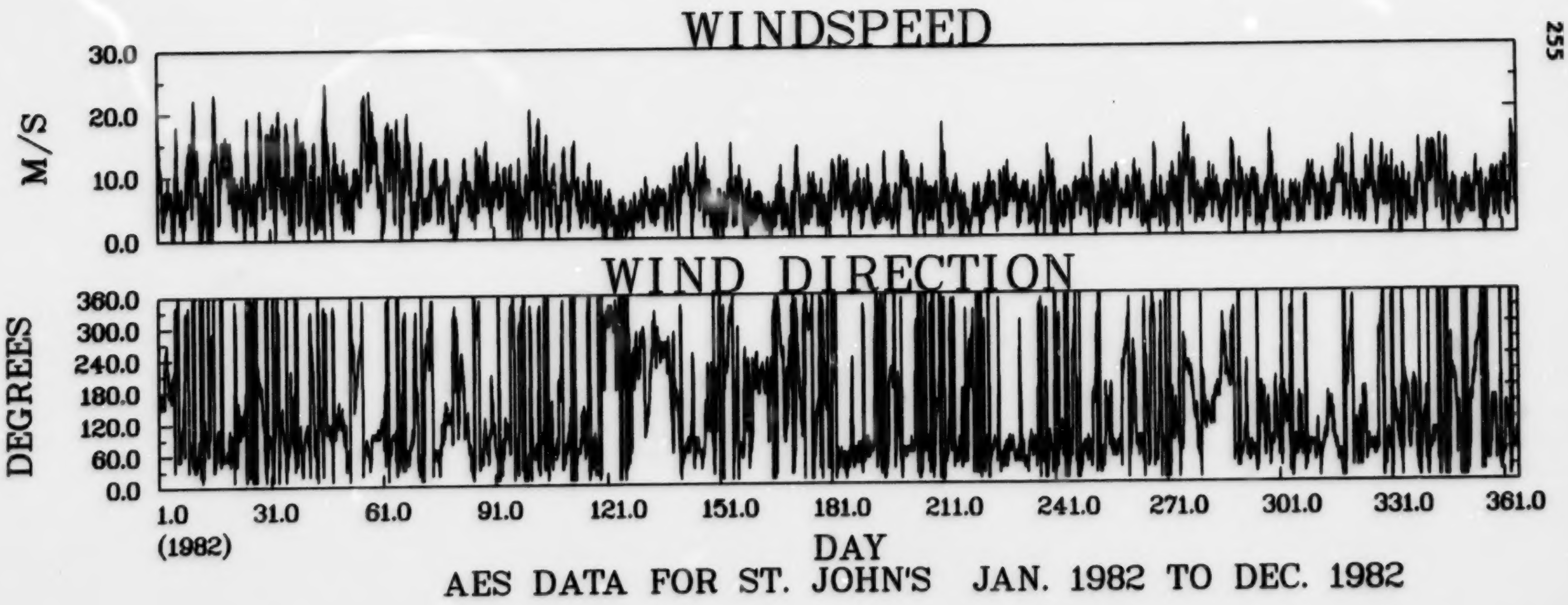


Figure 4. Wind speed and direction at St. John's, 1983, based on hourly data.

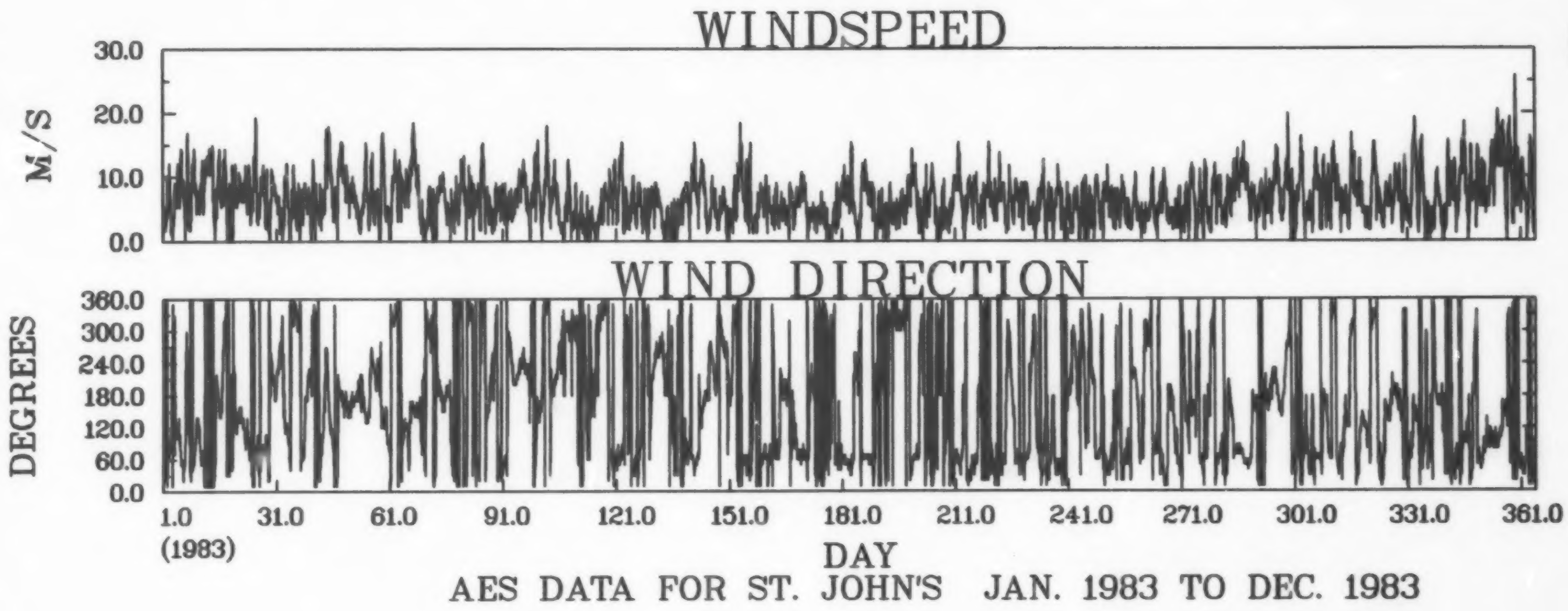


Figure 5. Wind speed and direction at St. John's, 1984, based on hourly data.

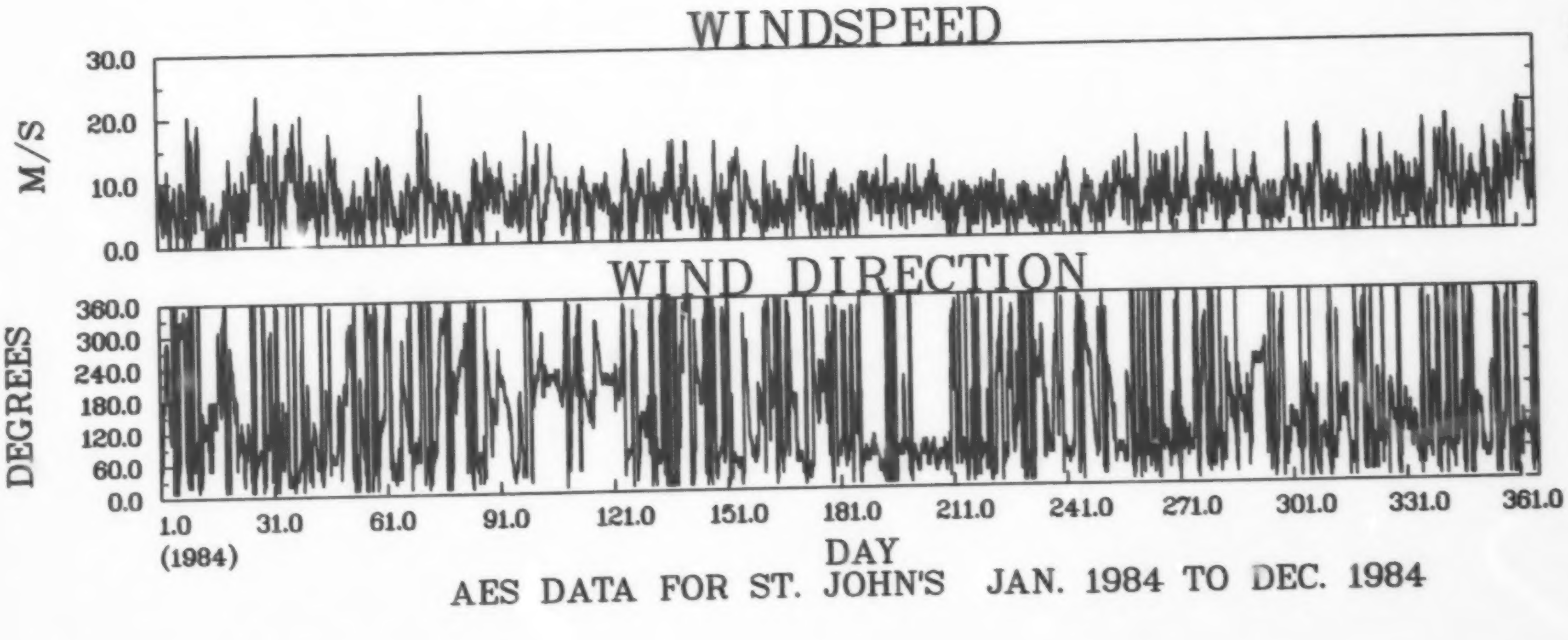
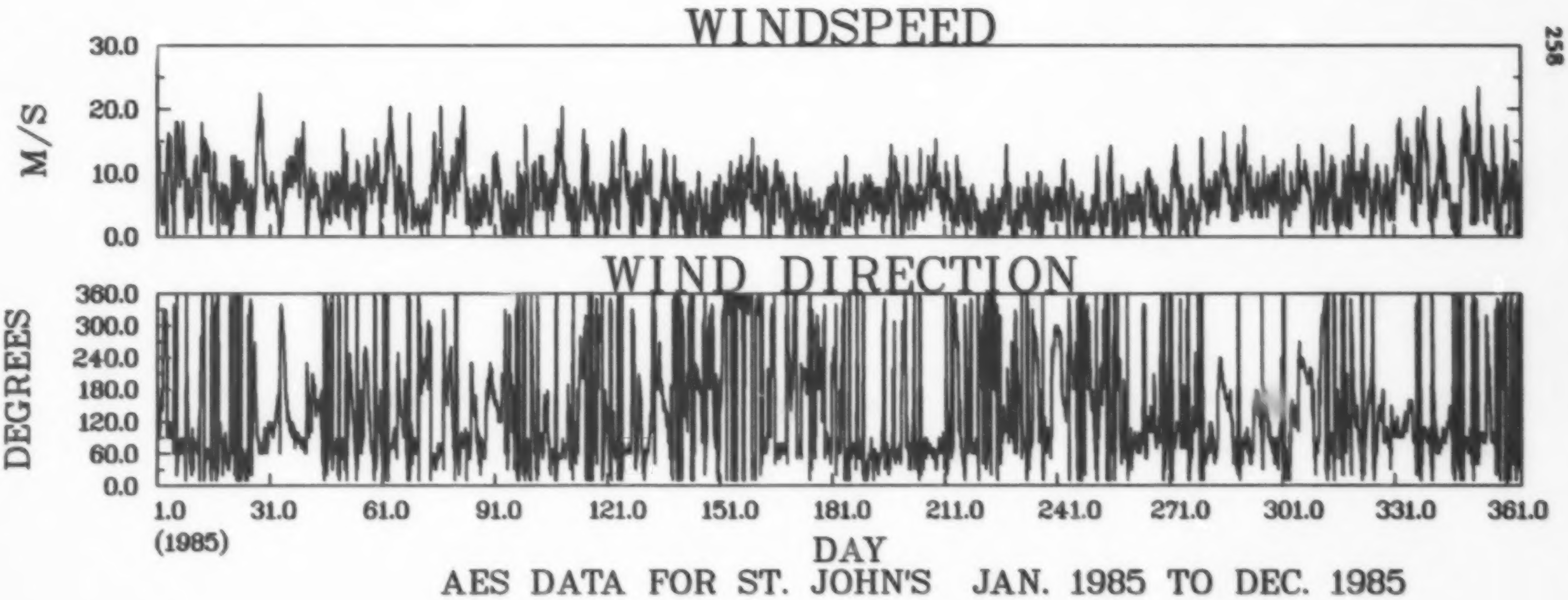


Figure 6. Wind speed and direction at St. John's, 1985, based on hourly data.



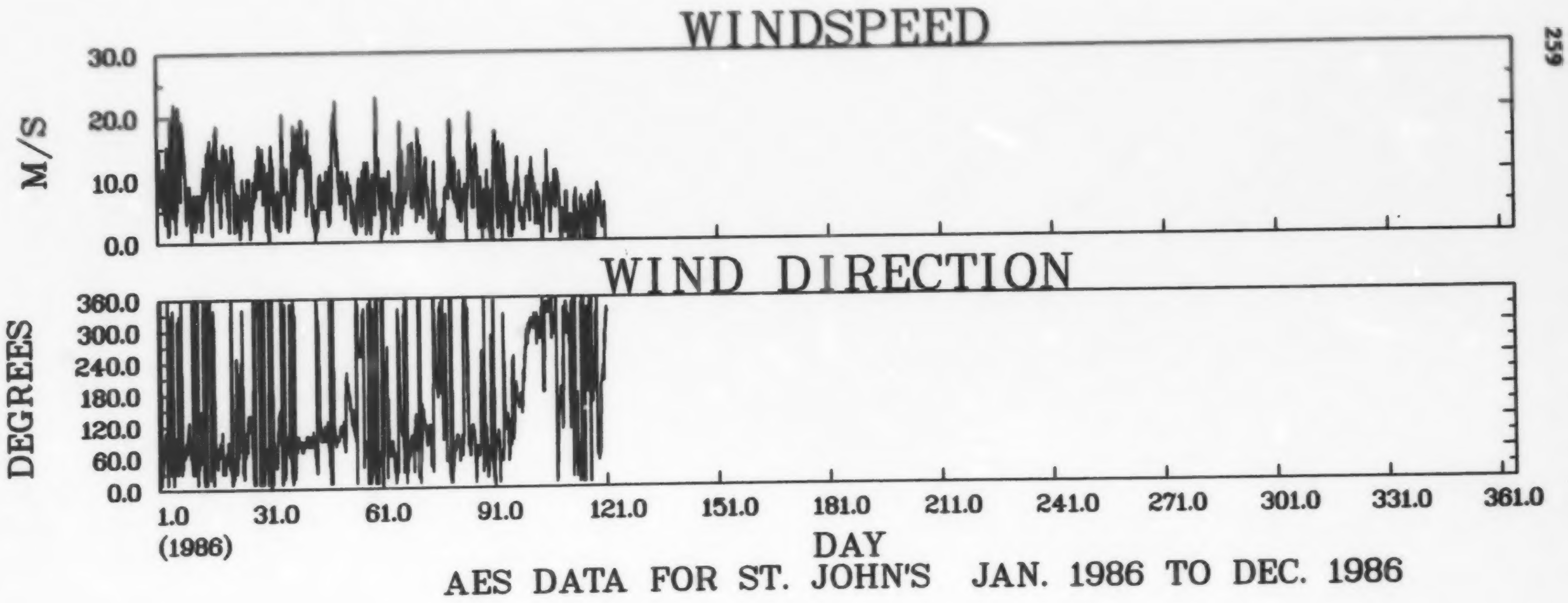


Figure 7. Wind speed and direction at St. John's, 1986, based on hourly data.

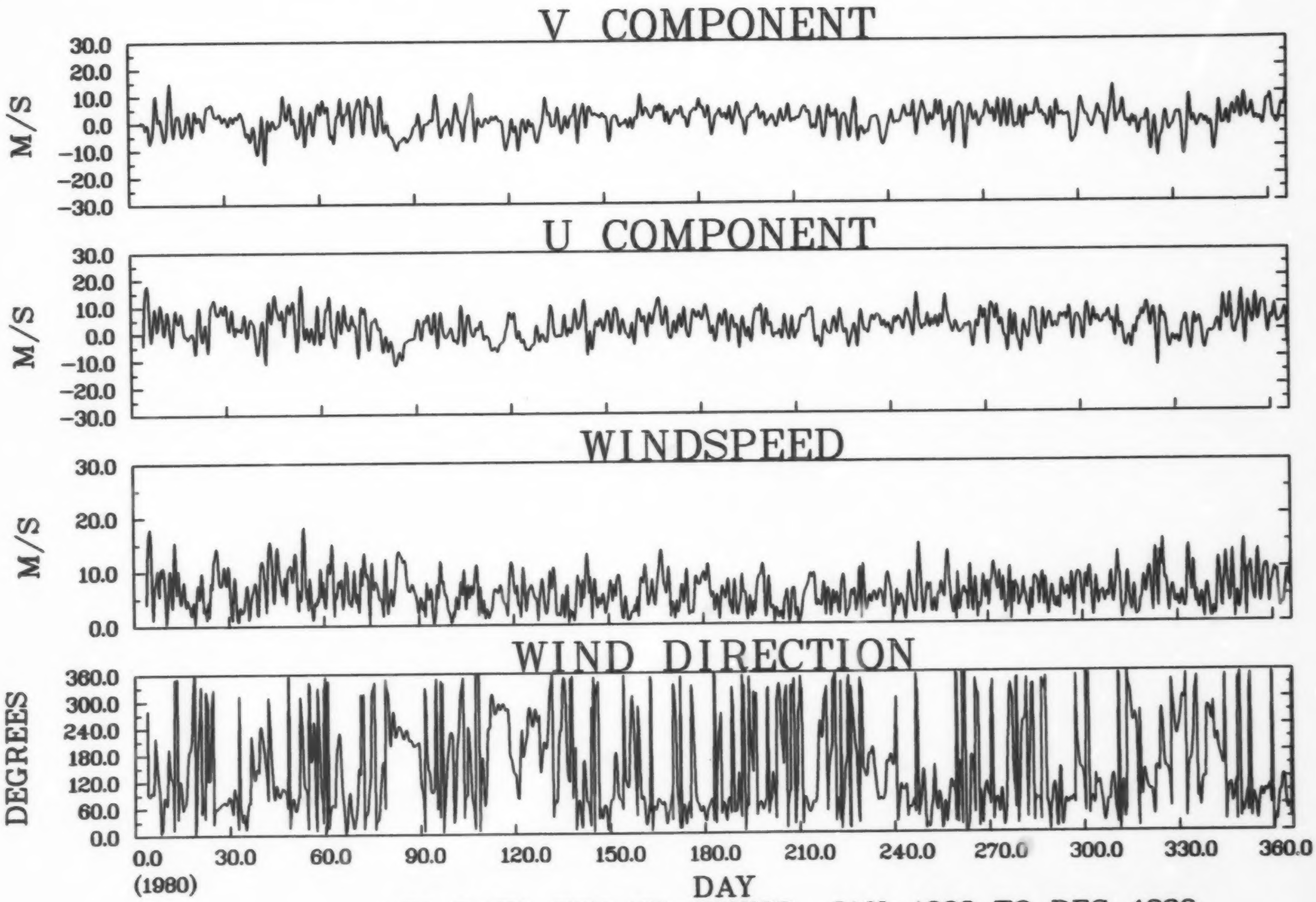


Figure 8. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1980, based on filtered data.

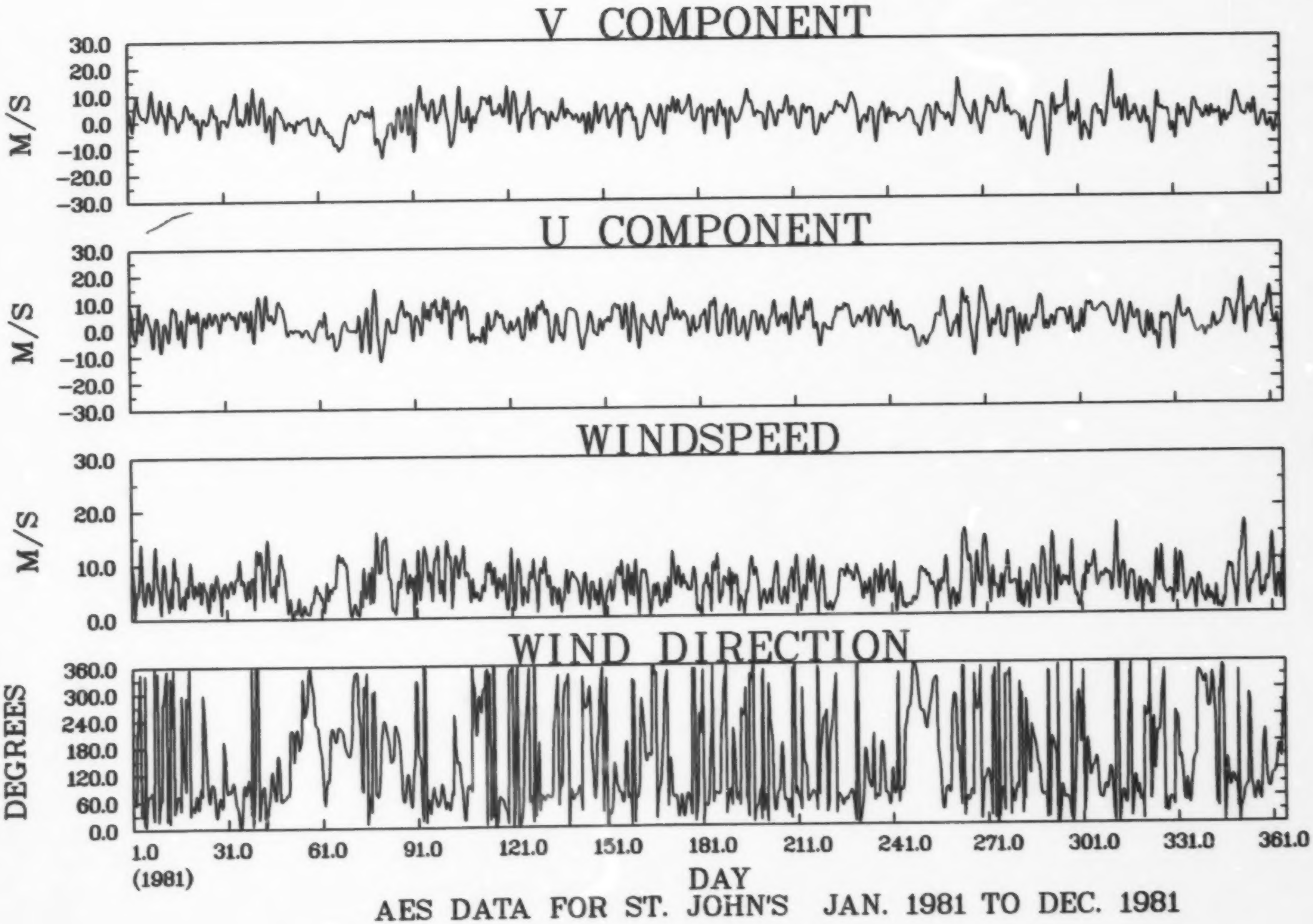


Figure 9. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1981, based on filtered data.

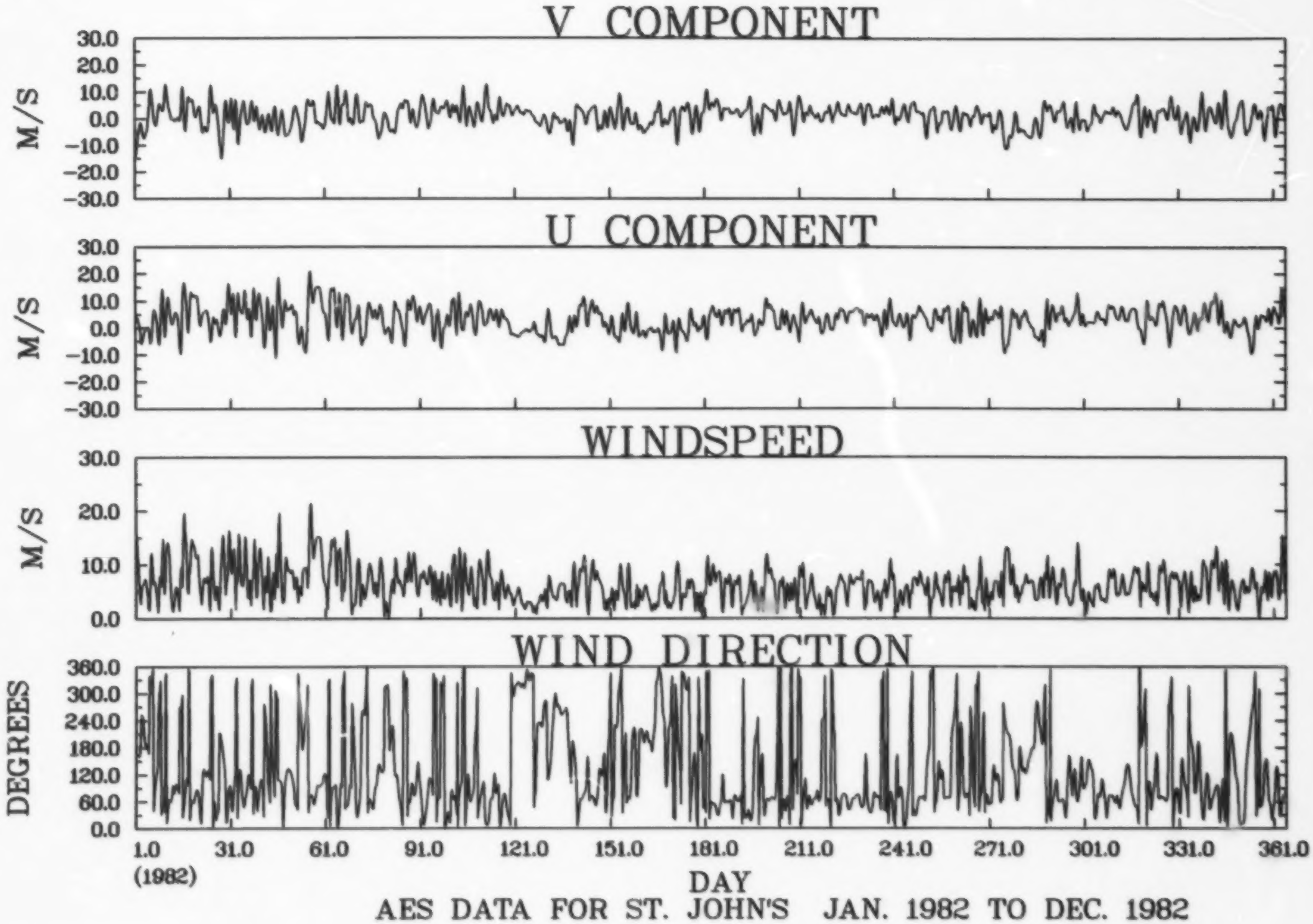


Figure 10. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1982, based on filtered data.

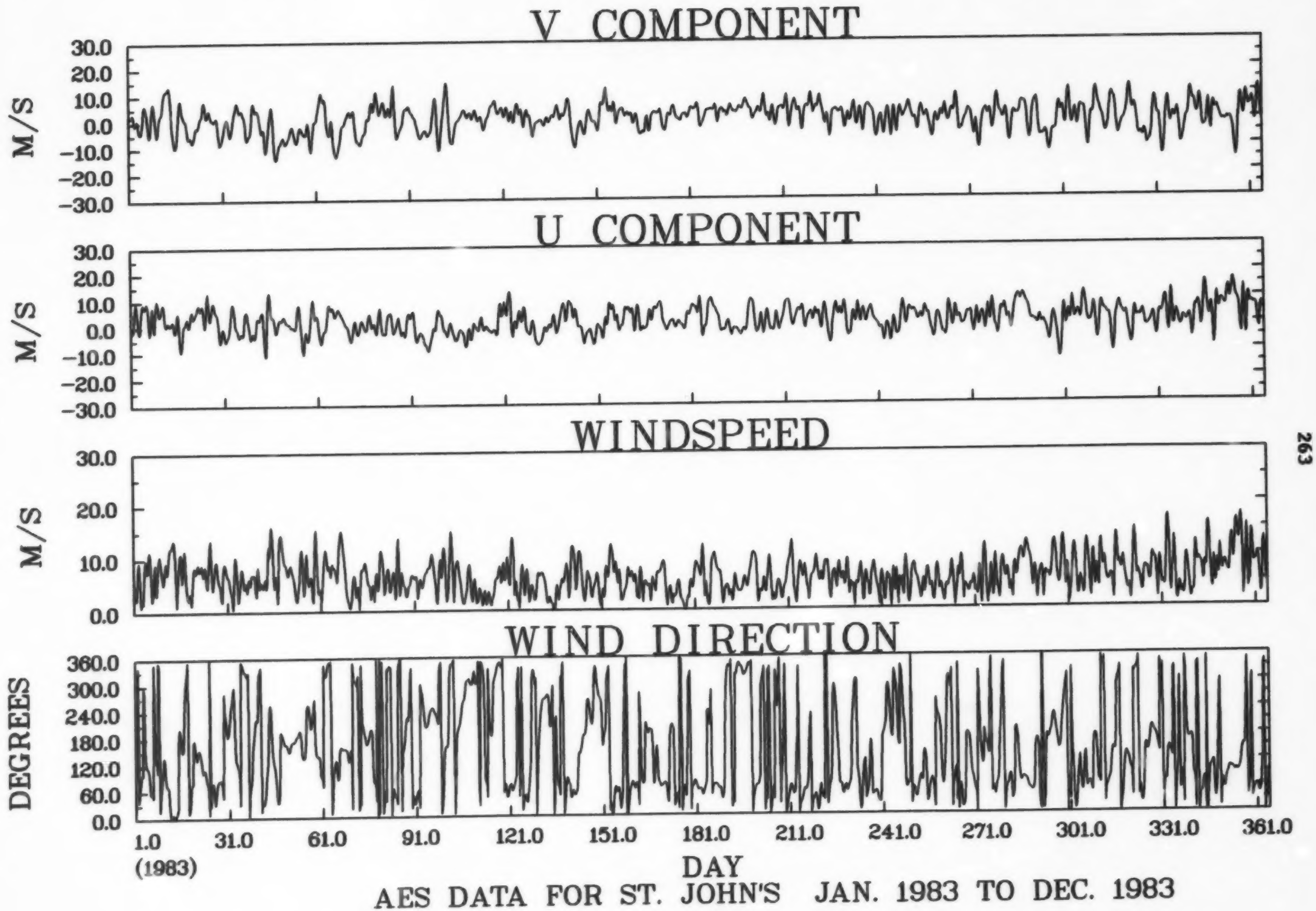


Figure 11. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1983, based on filtered data.

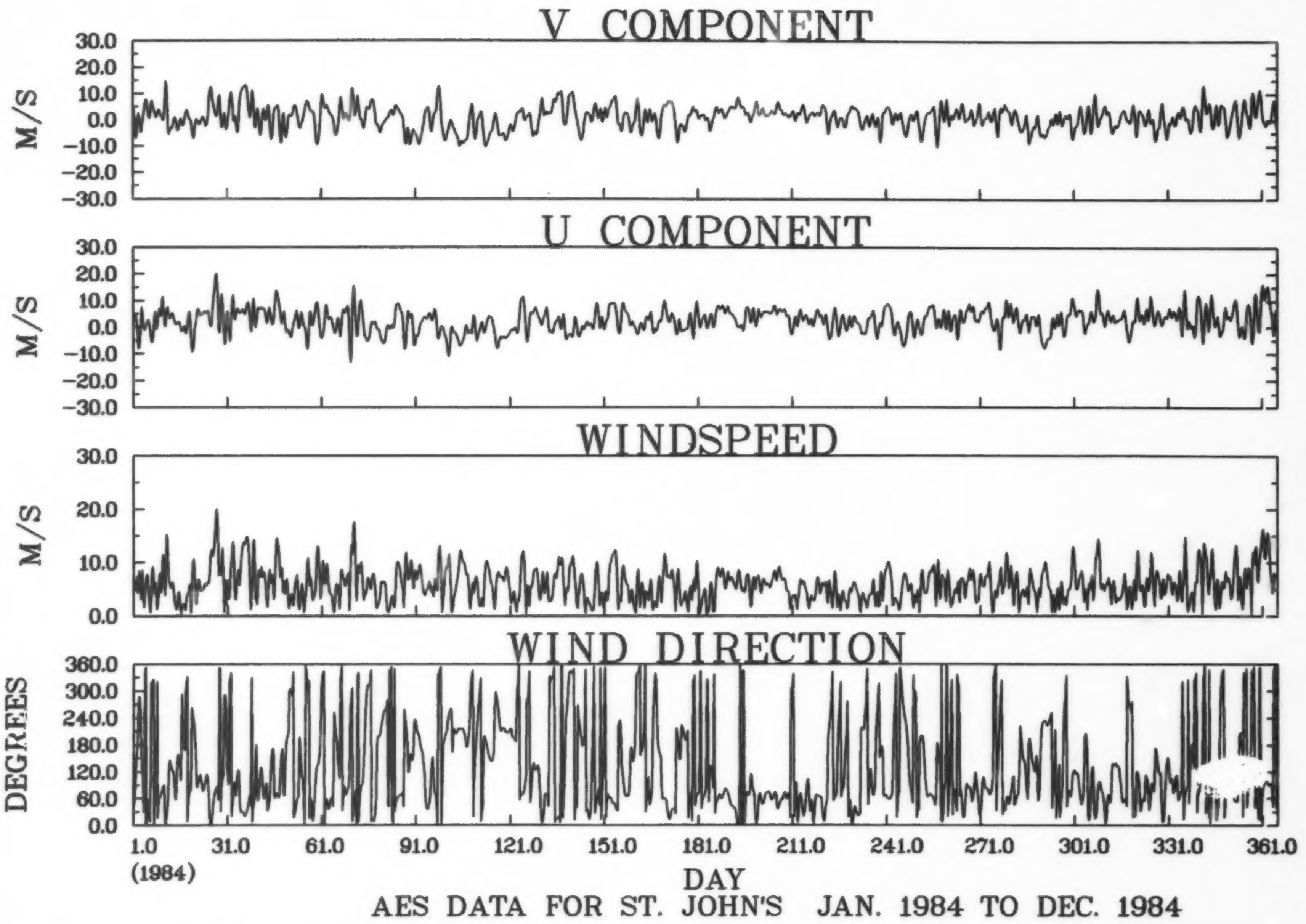


Figure 12. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1984, based on filtered data.

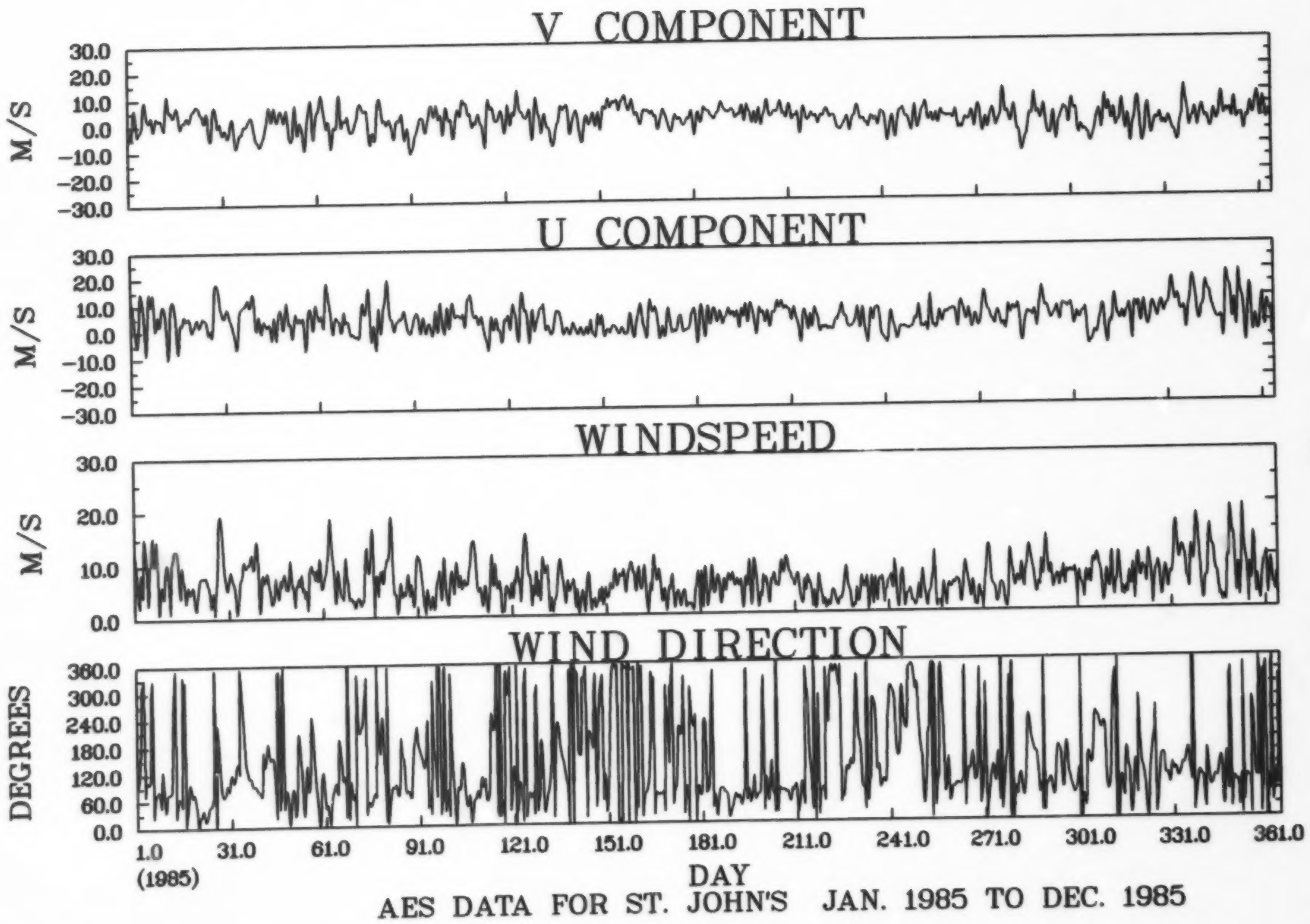


Figure 13. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1985, based on filtered data.

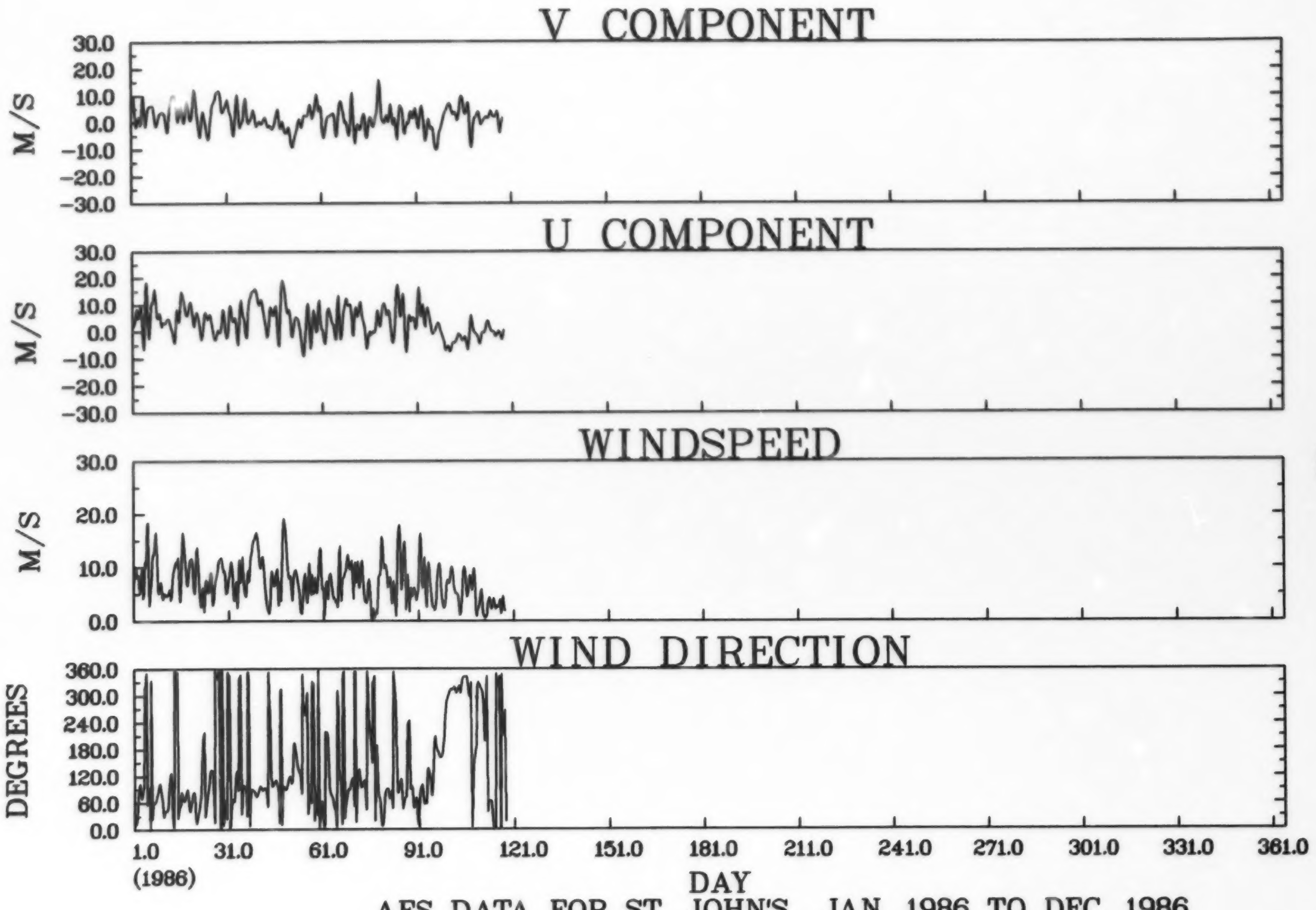


Figure 14. Wind speed and direction, U (eastward) and V (northward) components of wind at St. John's, 1986, based on filtered data.

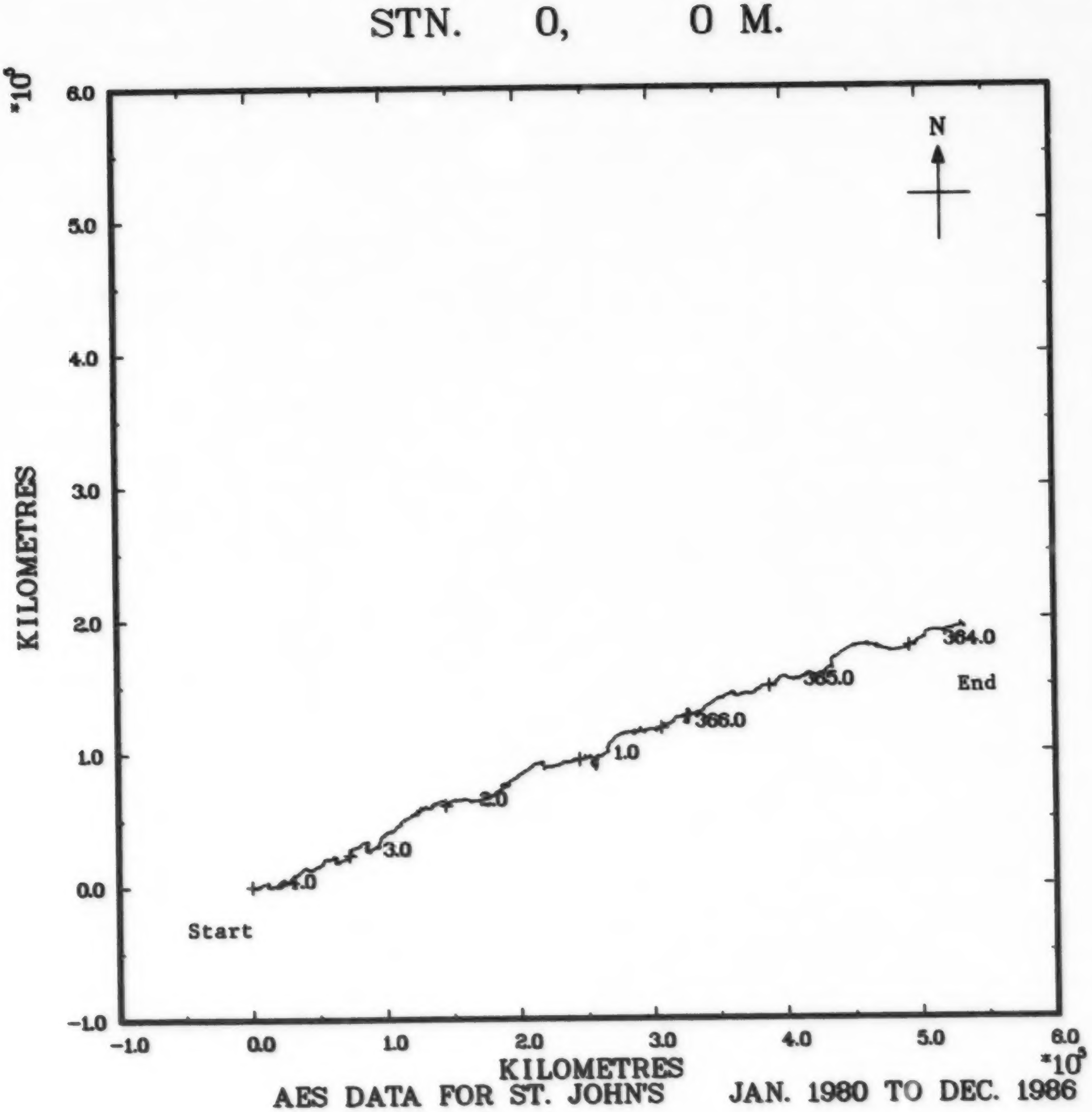
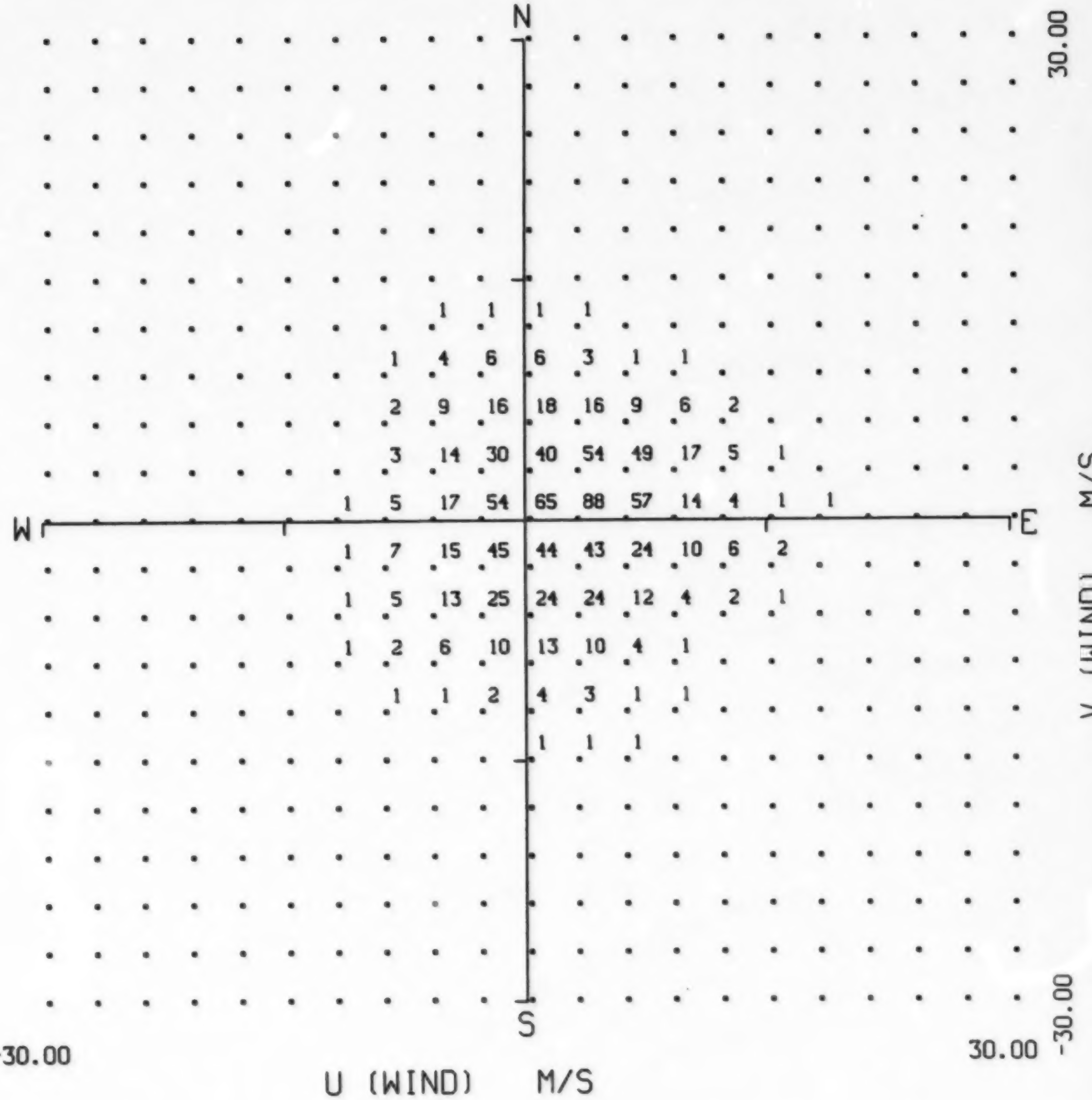


Figure 15. Progressive vector diagram of wind, 1980 - 1986, based on filtered data. Crosses mark one year intervals.



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CRUISE 99999 STATION 0 DEPTH 0 M.
START TIME 3/ 1/ 80 19:30: .0 GMT
FREQUENCY UNIT 0.1%

Figure 16. Scatter plot of U-V components of wind, 1980 - 1986, based on filtered data.

HISTOGRAM OF WINDSPEED (M/S) AES DATA FOR ST. JOHN'S, NFLD JAN. 1980 TO DEC. 1986 (3600 SEC.)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	18815	33.9	**
5.00	10.00	27354	49.3	***
10.00	15.00	7654	13.8	****************************
15.00	20.00	1554	2.8	******
20.00	25.00	110	.2	*
25.00	30.00	1	.0	*

TOTAL NO. OF SAMPLES55488

OUTSIDE RANGE 0

Table 1. Histogram of wind speed based on hourly data.

HISTOGRAM OF WINDSPEED (M/S) AES DATA FOR ST. JOHN'S, NFLD JAN. 1980 TO DEC. 1986 (21600 SEC.)

BAND .GE.	.LT.	NUMBER IN BAND	PER CENT	
0.00	5.00	3567	38.7	***
5.00	10.00	4503	48.8	**
10.00	15.00	1037	11.2	***********************
15.00	20.00	117	1.3	***
20.00	25.00	3	.0	*
25.00	30.00	0	0.0	

TOTAL NO. OF SAMPLES 9227

OUTSIDE RANGE 0

Table 2. Histogram of wind speed based on filtered data.